

STATE UNIVERSITY OF NEW YORK



**INSTITUTE OF APPLIED ARTS
AND SCIENCES**

BINGHAMTON

1952-1953

STATE UNIVERSITY OF NEW YORK

INSTITUTE OF APPLIED ARTS
AND SCIENCES
BINGHAMTON

1952-1953

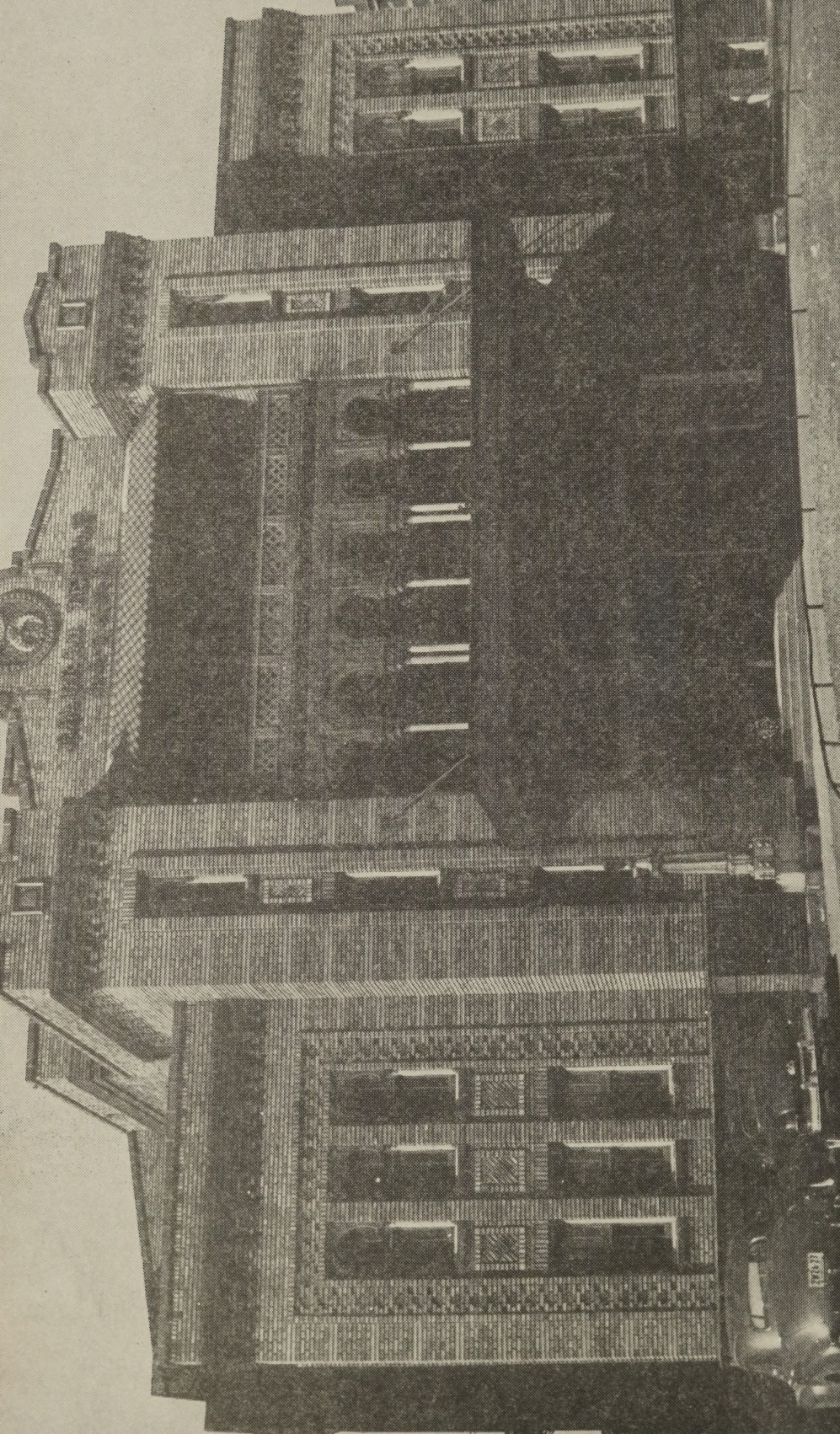


TABLE OF CONTENTS

	PAGE
State University of New York.....	4
University Trustees and Administrative Staff.....	5
Institute Trustees and Administrative Staff.....	6
Faculty	7
Advisory Committees	9
The Technical Institute.....	11
Location and Facilities.....	13
Entrance Requirements	14
Expenses	15
Application Procedure	16
Academic Standards	17
General Information	19
Student Activities	22
General Education	31
Automotive Technology	34
Chemical Technology	40
Electrical Technology	46
Mechanical Technology	52
Medical Office Assistant	58
Technical Office Assistant	64
Calendar	78

STATE UNIVERSITY OF NEW YORK

The Institute of Applied Arts and Sciences at Binghamton is part of State University of New York which was established by the State Legislature in 1948. State University now comprises twenty-two colleges and eleven institutes, separated geographically, but united in the purpose to improve and extend, where necessary, the opportunities for youth to continue their education after high school.

As a whole, State University offers cultural, technical and professional courses of study that include liberal arts, mechanical technology, home economics, agriculture, forestry, education for medicine or teaching.

Governed by a fifteen member Board of Trustees appointed by the Governor, State University of New York plans for the total development of State-supported higher education. Each unit of State University is locally administered, and students apply directly to the institution for admission.

State University is placing particular emphasis during the current year on the development of programs in research, the cultural arts, health services for students, the pattern of general education and enrichment of the curriculum on each campus.

To the full limits of its facilities for 30,000 students, State University admits all qualified students regardless of race or color, creed or economic status. Commissioned by the people of New York State, the University offers equal opportunities to youth—let each become all he is capable of being.

STATE UNIVERSITY OF NEW YORK

BOARD OF TRUSTEES

OLIVER C. CARMICHAEL, <i>Chairman</i>	New York City
ARTHUR H. DEAN.....	Oyster Bay
MRS. BETTY HAWLEY DONNELLY.....	New York City
CHARLES GARSIDE.....	New York City
NORMAN S. GOETZ.....	New York City
FREDERICK F. GREENMAN.....	New York City
GEORGE EDMUND HAYNES.....	New York City
PAUL KLAPPER.....	New York City
EARLE J. MACHOLD.....	Syracuse
DWIGHT MARVIN.....	Troy
FRANK C. MOORE.....	Kenmore
JOSEPH J. MYLER.....	Rochester
EDWARD N. SCHEIBERLING.....	Albany
HENRY D. SHERWOOD.....	Pine Plains
MRS. EMILY SMITH WARNER.....	New York City

CENTRAL ADMINSTRATIVE STAFF

President (acting).....	CHARLES GARSIDE
Secretary to the Board of Trustees.....	JOHN K. WEISS
Business Ass't to the President.....	CHARLES H. FOSTER
Consultant on Academic Affairs.....	DWIGHT D. TAYLOR
Executive Dean for Institutes and Community Colleges.....	LAWRENCE L. JARVIE
Executive Dean for Teacher Education....	HERMANN COOPER
Executive Dean for Four-Year Colleges.....	REUBEN FRODIN
University Architect.....	OTTO J. TEEGAN
Counsel	KENT H. BROWN
Associate Counsel	IRVING I. WAXMAN
Public Relations Officer	NELL P. HUTCHINSON
Associate Coordinator of Research.....	PHILIP A. COWEN*
Secretary to the President.....	MARGARET E. O'CONNOR

* Assigned from State Education Department

INSTITUTE OF APPLIED ARTS AND SCIENCES BINGHAMTON

BOARD OF TRUSTEES

PAUL F. TITCHENER, <i>Chairman</i>	President, E. H. Titchener and Company
BERNARD H. CHERNIN, <i>Vice-Chairman</i>	Attorney
MRS. JOHN H. ROBERTSON, <i>Secretary</i>	Civic Leader
DR. JAMES T. IVORY.....	Dentist
HAROLD P. SMITH.....	President, Central Labor Union
BRUCE L. BABCOCK..	Treasurer, Endicott-Johnson Corporation
DAUSE L. BIBBY.....	Vice-President, International Business Machines Corporation

ADMINISTRATION

C. C. TYRRELL.....	Director <i>Purdue University</i>
DAVID E. MEADE.....	Registrar <i>Hobart College, Buffalo State Teachers College Oswego State Teachers College</i>
TRACY R. CONE.....	Bursar
JOAN L. FOLEY.....	Librarian
CLYDE CHAUNCEY.....	Dean of Men
NEVA M. ASH.....	Dean of Women

FACULTY

- LLOYD D. ARMSTRONG.....Mechanical Technology
Syracuse University
- NEVA M. ASH.....Head, Office Assistants
New York University, St. Luke's Hospital, New York City
- DARRELL H. BADORE.....Chemical Technology
*Canton Agricultural and Technical Institute
Clarkson College of Technology*
- RICHARD BALDWIN.....Communication Skills
University of Rochester, St. Bonaventure University
- AXFORD L. BEAGLE.....Chemical Technology
*Canton Agricultural and Technical Institute
Clarkson College of Technology*
- NORMA BURKHARDT.....Office Assistants
University of Buffalo
- CYDE E. CHAUNCEY.....Office Assistants
*Syracuse University, University of Rochester
Columbia University*
- HERBERT DURST.....Mechanical Technology
Drexel Institute of Technology
- GEORGE ELLIOTT.....Social Sciences
Middlebury College, Columbia University
- DONALD W. EMMONS.....Electrical Technology
*Canton Agricultural and Technical Institute
Clarkson College of Technology, Oklahoma A and M College*
- MARION A. FORBES.....Mechanical Technology
*University of State of New York, Teacher Training
Cornell University*
- K. K. FRENCH.....Electrical Technology
*Rochester Institute of Technology
University of Rochester*
- ROY GREENWOOD.....Social Sciences
*Allegheny College, Syracuse University
University of Buffalo*
- H. H. GRUBER.....Mechanical Technology
Penn State
- LLOYD W. HARTMAN.....Communication Skills
Syracuse University, Cornell University
- MICHAEL J. KAPRAL.....Mechanical Technology
*University of State of New York, Teacher Training
Cortland State Teachers College*

- JOHN KUSHNER.....Head, Chemical Technology
Colorado School of Mines, Cornell University
- MARY KUSHNER.....Office Assistants
Albany College of Pharmacy, Union University
Bender Hygienic Laboratory
- RICHARD A. LATHAM.....Electrical Technology
Canton Agricultural and Technical Institute
Clarkson College of Technology
Cornell University
- JAMES E. MCVEAN.....Electrical Technology
Canton Agricultural and Technical Institute
Clarkson College of Technology
Cornell University
- MICHAEL T. ORINIK.....Chemical Technology
Penn State, Cornell University
- ALBERT L. PETRASKE.....Electrical Technology
Canton Agricultural and Technical Institute
Clarkson College of Technology
Cornell University
- FRED SANDERS..Head, Automotive and Mechanical Technology
Pratt Institute
- IRVIN C. SIMSER.....Automotive Technology
Clarkson College of Technology
- L. J. SITTERLEE.....Head, Electrical Technology
Rochester Institute of Technology, Buffalo State
Teachers College, Clarkson College of Technology
- WALTER TEDICK.....Office Assistants
University of Alabama, University of Pittsburgh

GENERAL ADVISORY COMMITTEE

E. Allan Williford, Chairman	Link Aviation Devices	Binghamton, N. Y.
Donald J. Ahearn	Universal Instruments	Binghamton, N. Y.
Halsey C. Alderman	Alderman's of Endicott	Endicott, N. Y.
Edward B. Alexander	N.Y.S. Electric & Gas Corp.	Binghamton, N. Y.
C. H. Ridgley	General Electric Co.	Johnson City, N. Y.
Aubrey S. Bowen	Cutler Ice Co.	Binghamton, N. Y.
John C. Clark, Jr.	Clark-Cleveland Co.	Binghamton, N. Y.
William L. Cuddebak	Binghamton Savings Bank Bldg.	Binghamton, N. Y.
James M. Davidge	N.Y.S. Electric & Gas Corp.	Binghamton, N. Y.
Moses H. Dorsey	31 Haendel St.	Binghamton, N. Y.
Melvin C. Eaton	Norwich Pharmacal Co.	Norwich, N. Y.
George G. Eisenbeis	Stow Manufacturing Co.	Binghamton, N. Y.
Fred A. Ellis	Brewer-Titchener Corp.	Binghamton, N. Y.
Marshall H. English	Coop Farm Credit Assn.	Binghamton, N. Y.
Stuart English	N. Y. Telephone Co.	Binghamton, N. Y.
Arthur M. Ernst	Plumbers Union	Binghamton, N. Y.
Keith Famulener	Anseo	Binghamton, N. Y.
George D. Gardner	Gardner Motors, Inc.	Binghamton, N. Y.
James Gitlitz	Chernin & Gold	Binghamton, N. Y.
Mrs. Samuel Goodman	50 Laurel Ave.	Binghamton, N. Y.
Warren G. Grady	Drybak Corp.	Binghamton, N. Y.
George H. Hale	City National Bank	Binghamton, N. Y.
Ronald Hamilton	M. D.	Binghamton, N. Y.
Louis Korchak	224 Clinton St.	Binghamton, N. Y.
E. B. Lambert	Central Labor Union	Binghamton, N. Y.
William L. Lewis	I. B. M.	Endicott, N. Y.
John B. Lillie	Asst. Supt. of Schools	Binghamton, N. Y.
Audley R. MacAlmon	I. B. M.	Endicott, N. Y.
William Manning	D. D. S.	Binghamton, N. Y.
Raymond A. Mills	Endicott-Johnson Corp.	Endicott, N. Y.
Clarence A. Murray	Endicott Forging Co.	Endicott, N. Y.
Charles J. Pierson	Pierson's	Binghamton, N. Y.
Maurice J. Quain	Broome Printing Co.	Binghamton, N. Y.
Walter J. Riale	329½ Main St.	Johnson City, N. Y.
George B. Roberts	Roberts Maintenance Supply	Johnson City, N. Y.
Charles R. Rosenthal	The Fair Store	Binghamton, N. Y.
Stephen O. Salmon	Vestal Central School	Vestal, N. Y.
Howard A. Swartwood	Endicott-Johnson Corp.	Endicott, N. Y.
Cornelius C. VanPatten	Security Mutual Life Ins. Co.	Binghamton, N. Y.
George Vogt	M. D.	Binghamton, N. Y.
Frank Welsh, Jr.	I. B. M.	Endicott, N. Y.

CURRICULUM ADVISORY COMMITTEES

Automotive Technology

H. C. Alderman
Hugh T. Beckwith
K. S. VanDervort
George D. Gardner
A. M. Hamel
Ben M. Hansen
Louis P. Korchak
Henry Levena

Harry H. Miller
Harold Nichol
G. L. Savory
Robert F. Shumann
C. E. Snyder
Claude A. Wheeler
Sherman F. Green

Chemical Technology

R. Gerry Ashcraft
John Coleman

Harold K. Salzberg

George Dormer
Keith Famulener

Electrical Technology

Fred Grupp
Gunne Lowkrantz
A. W. Milliken
James P. Peterson

Frank A. Schnell
Stanley Stephens
John J. Wagner
William Wood

Mechanical Technology

Donald J. Ahearn
Walter Greacen

Walter I. Mosher
L. E. St. John

Medical Office Assistant

Victor W. Bergstrom, M. D.
Clifton Berlinghof, M. D.
Elton Dickson, M. D.

Alexander Kosinski, M. D.
R. S. McKeeby, M. D.
Gerald V. Sullivan, M. D.

George C. Vogt, M. D.

Technical Office Assistant

Walter A. Harris
Leslie Jones
Emory Kurtz
Mrs. Alberta Michael

Darl O. Nall
Allen Rowe
Miss Linda Stanford
Charles Stover

THE TECHNICAL INSTITUTE

The technical institute is regarded by many educators as the most significant development in present-day education. The story of how the technical institute developed in New York State is typical of its rise in other parts of the country. It proceeded slowly but steadily from idea, to research, to reality. The basic idea was that there was a need for a new type of education between that of the secondary school and the 4-year college. Shortly after the turn of the century, a definite need was met by the creation of 6 State-supported schools offering courses in agriculture and home economics. The first step had been taken.

A period of research followed to determine whether or not there was a need for expansion of this two-year, tuition-free education. Among the data assembled in these surveys were two significant facts: (1) many high school graduates who want to go on to college are not able to do so because of the investment in time and money of a 4-year college education; (2) changes in industrial methods have created a demand for a differently skilled worker that was previously needed.

This new type of worker is the technician who has through study and experience fitted himself with much of the theoretical background of the graduate engineer and some of the hand-skills of the craftsman. Unlike either, he finds his greatest opportunity along the lines of supervision, inspection, production, drafting, and plant operation and maintenance. Occupations on this level in industry and in the service and business fields can be filled acceptably by persons with less than four years of higher education.

These two demands, one by high school graduates for more education, and one by industry, business and the professions for persons with special skills and knowledge were responsible for the expansion of the agricultural schools into Agricultural and Technical Institutes, and the establishment of 5 new Institutes of Applied Arts and Sciences at Binghamton, Buffalo, New York City, White Plains and Utica. In April of 1949 these 2-year institutes together with other State-supported educational institutions of collegiate rank became units of the State University of New York. In 1951 the Institutes were given permission to grant the degree, Associate in Applied

Science, in those curriculums which had been approved by the State Department of Education. Thus the idea became reality.

In general, most 2-year college curricula are either preparatory or what educators call "terminal". A preparatory curriculum makes up, in effect, the first two years of a 4-year college program. Upon graduation, the student normally transfers to a 4-year college to obtain his degree. Terminal education, on the other hand, means courses so designed and arranged that at the end of two years a student has a complete education for a well-defined vocational objective. The aim of terminal education is entry into full-time employment rather than preparation for further education. The State Technical Institutes offer terminal education.

Each Institute is community-centered with a local Board of Trustees and curriculums geared to the requirements of the local area. The Institute at Binghamton, the center of an industrial community, offers the following curriculums:

- Automotive Technology
- Chemical Technology
- Electrical Technology
- Mechanical Technology
- Medical Office Assistant
- Technical Office Assistant

While emphasizing occupational skills, the Institutes recognize that the good worker is the good citizen. Therefore, considerable time is devoted to studies and activities of a non-technical nature. These courses in general education seek to develop those skills and attitudes which should be the common possession of all good citizens, parents and workers.

INSTITUTE OF APPLIED ARTS AND SCIENCES

BINGHAMTON

LOCATION

Binghamton, together with Johnson City and Endicott, form the Triple Cities, a community well known for its industries, economic stability and community spirit.

The products of the three major industries manufacturing shoes, business machines, and film and photographic supplies are known the world over. Smaller industries turn out hundreds of diversified products.

Binghamton can be easily reached by car from all parts of the State via routes 7, 11, 12, 17. It is also served by three railroads and several bus lines. Air passenger and freight service to all parts of the country is now possible by the completion of the \$4,000,000 Broome County Airport on nearby Mt. Ettrick.

The combination of "big town" features with "small town" atmosphere makes the Triple Cities area an ideal one in which to work and live. The Institute is fortunate in its location and is proud to make its unique contribution to the community.

FACILITIES

The Institute is housed in two buildings located in the central part of the city, easily accessible from all parts of the city by bus and equidistant from surrounding towns for commuters.

In the main building are the offices, classrooms and shops and laboratories. Here also are the gymnasium with a seating capacity of 1,500, the cafeteria, library and student lounge. Almost directly at the rear of the main building is the annex in which are located the laboratories used in the Automotive Technology curriculum.

Each curriculum has its own up-to-date laboratories and shops which are considered to be some of the finest in the State.

DEGREE

Students who complete the requirements for graduation in the full-time day curriculums are awarded the degree, Associate in Applied Science.

ENTRANCE REQUIREMENTS

A candidate seeking admission to the Institute is expected to have completed a four-year high school course consisting of a minumum of 16 units which has adequately prepared him to pursue a college program.

An applicant must meet the minumum requirements of physical ability required by the occupational field in which he wishes to engage.

He must show evidence of good moral character.

He must be recommended by his high school principal or guidance counselor.

It is recommended that an applicant have the following high school preparation :

Technology Curriculum

Mathematics3 units
(including elementary algebra, plane geometry, intermediate algebra)

Science2 units
(chemistry for Chemical Technology, physics for Electrical Technology physics and/or chemistry for Automotive Technology)

Office Assistant Curriculum

Mathematics2 units
(including elementary algebra)

Science2 units
(including chemistry or physics)

VETERANS

All Institute full-time curriculums are approved by the Veterans Administration. Those applicants wishing to obtain government educational benefits should consult their nearest veteran agency.

PART-TIME DAY STUDENTS

Qualified applicants may enroll as part-time students in the day program. A limited number of courses may be taken in a curriculum at the days and hours as listed in the regular schedule.

EXPENSES

TUITION

Tuition is FREE to residents of New York State. The non-resident (out-of-state) tuition fee is \$300 per year. Payment of one-third of such tuition is due at the beginning of each of the first three terms of the school year.

FEES

Laboratory	\$10.00
Student Activity	20.00*
Health	15.00**
Lock Deposit (1st year)	2.00
Graduation	10.00†

All deposits and fees are due at the time of registration.

* The ten dollar deposit required with the application becomes an advance payment on the activity fee if the applicant is accepted.

** Except applicants who have complete medical service through parental employment in the immediate Institute area. The health fee for such students is \$3.00 per year.

† This fee is paid at the time of freshmen registration and is held as a deposit to guarantee the fulfillment of financial obligations of any student withdrawing prior to graduation.

Any refund of fees to a withdrawing student is at the option of the Institute exclusively.

BOOKS AND SUPPLIES

Each student provides at his own expense the necessary books and instructional supplies. These may be purchased at the Book Store maintained by the Institute for the convenience of its students. The cost varies, depending upon the course, from \$70.00 to \$100.00 per year.

BOARD AND ROOM

The cost of board and room is dependent upon the demands of the student. The average cost varies from twelve to sixteen dollars per week.

FIELD TRIPS

Senior students in Automotive and Mechanical Technology are required to make a number of inspection trips. The total cost is approximately \$20.00.

APPLICATION PROCEDURE

New students are admitted only in September of each year. However, applications will be accepted at any time during the year.

An application for admission must be made on official forms supplied by the Institute. These forms may be obtained on request at the office of the Registrar.

A deposit of ten dollars must accompany each application. This deposit is applied as an advance payment on the student activity fee if the applicant is accepted. It will be refunded if the applicant is not accepted. IT WILL NOT BE REFUNDED if the applicant fails to report for registration after acceptance.

Each applicant will be interviewed by the members of the Committee on Admissions. An appointment will be made after the applicant's deposit, application and other required credentials have been received in the Registrar's office. Appointments for interviews will normally be made after January first of each year.

TRANSFER STUDENTS

Applications are accepted from students who have been enrolled in other colleges if they submit satisfactory entrance requirements.

Transfer of credit for advanced standing is subject to the approval of the Department Head and the Registrar.

Consideration will not be given to any subject for transfer credit which carries a grade of less than "C".

LATE REGISTRATION

An applicant may not register more than seven days after the beginning of the fall term except by special permission of the Director of the Institute.

STATE SCHOLARSHIPS

State Scholarships may be used at the Institute in curriculums which lead to the degree of Associate in Applied Science. All full-time day curriculums at the Institute at Binghamton are so accredited.

ACADEMIC STANDARDS

GRADING SYSTEM

Grade	Points per Credit Hour
A	3
B	2
C	1
D	0
F	0

A—Excellent

Achievement demonstrates outstanding ability in subject with little or no personal supervision. Initiates and carries on independent work.

B—Good

Ability and achievement better than average. Student shows considerable initiative and requires only a minimum of personal supervision.

C—Satisfactory

Achievement is commensurate with ability but requires an average amount of supervision.

D—Passing

Achievement sufficient to form basis for future work but requires excessive instructor aid and supervision.

F—Failing

Achievement insufficient to form basis for future work.

SCHOLASTIC STANDING

To remain in satisfactory scholastic standing, a student enrolled at the Institute must earn a point average of 0.8 the first term, and maintain 0.9 the second term, 1.0 the third term and 1.0 for each succeeding term until graduation.

Even though the student shows satisfactory accomplishment, it is also necessary for him to show ability to get along satisfactorily with his instructors and fellow students.

Grades are issued at the end of each term. Mid-term grades are also issued to students who are doing unsatisfactory work.

The Director's Honor List is published at the end of each term.

PROBATION

A student who does not maintain a minimum point average of 0.8 in any term and a cumulative point average as indicated above, for each term after the first one, is considered *unsatisfactory*.

The student whose work is unsatisfactory will be notified by the Registrar that he is on probation for the following "in Institute" term.

DISMISSAL

Failure to earn satisfactory grades during the probationary term is grounds for dismissal. A student who attains a point average of 0.5 or below in any term will be considered by the Executive Committee for dismissal.

Irregular attendance, neglect of work or of financial obligations, conduct unbecoming a student, or failure to comply with Institute rules and official notices, will be regarded as sufficient reason for dismissal.

Any requested withdrawal of a student is by action of the Executive Committee. A student may not be re-admitted except by favorable action of the Committee. The Institute reserves the right to be the sole judge in all matters pertaining to dismissal and to drop students without giving a reason or "a second chance" when it deems such action necessary. Refunds will not be made when it is necessary for the Institute to dismiss a student.

A student who has withdrawn is entitled to certification of attendance only after he has met all obligations to the book store, cafeteria, library and athletic department.

WITHDRAWAL

Any student compelled to withdraw at any time during the semester must immediately notify the Registrar. This notice of withdrawal must be in writing and state the reason for the withdrawal. Failure to comply with this request may cause the individual to forfeit his right to honorable dismissal and to lose any refund of fees.

Students under 21 years of age who must withdraw are required to present to the Registrar a letter of consent from the parent or guardian.

GENERAL INFORMATION

ACADEMIC YEAR

All curriculums are two years in length. The school year is divided into four terms of approximately twelve weeks each. In each year the student normally spends three terms at the Institute and one term in cooperative employment. No classes are held in August.

Classes are in session from 8 A. M. to 5 P. M. Monday through Friday.

LIVING ACCOMMODATIONS

Out-of-town students must live in rooms approved by the Institute. The Deans maintain lists of rooms and assist students in finding suitable living quarters. In most cases, meals are not furnished.

Breakfast and lunch are served at the Institute cafeteria at moderate cost.

REQUIREMENTS FOR GRADUATION

Satisfaction of the Institute requirements as a regular student.

Completion of all specified subjects and projects for the curriculum in which the student is enrolled.

Maintenance of an honor point average of not less than 1.0 for the entire academic curriculum.

Satisfactory financial standing at the Institute.

HONOR AWARDS

Eight honor awards are made at Commencement. An award is given to the outstanding graduate in each of the six curriculums, and two other awards to the outstanding man and woman selected from the entire graduating class.

The prizes of fifty dollars each are contributed by the Binghamton Chamber of Commerce and are awarded on the basis of scholarship, leadership, personality, and all-around performance.

ATTENDANCE

The continued registration of any student is contingent upon his regular attendance at all classes. Work missed because of illness must be completed within a prescribed time. Continuance at the Institute after any protracted absence is at the discretion of the student's Department Head and the Executive Committee.

CARE OF STUDENT PROPERTY

Individual lockers and locker room facilities are provided for student use, but the Institute assumes no responsibility in connection with such use. Material left in lockers or Institute building by students who have graduated or withdrawn is disposed of after fifteen days.

CHANGE OF ADDRESS

All changes of address, both home and local, must be reported to the Registrar's office whether the student is attending school or is on cooperative work. Failure to do so may be considered as misconduct.

NOTICE OF INSTITUTE REGULATIONS

The regulations included in this Bulletin and other official statements of the Institute are binding on all students. The Institute reserves the right to change any of the regulations at any time without prior notice. Students will be considered to have sufficient notice of all official regulations posted on the bulletin board in the first floor corridor of the main building.

TRANSCRIPTS

Each graduate is entitled to two transcripts of his work completed at the Institute, free of charge. One dollar is charged for each additional transcript issued.

COOPERATIVE WORK PROGRAM

In the work-study plan every effort is made to place students in jobs related to their major field of study for two separate employment periods. During this time students are under the supervision of the employers and Institute officials. They are expected to "earn their own way", to perform the duties required without special favor. They are paid the

prevailing wage for the job they do. At the end of each work period, employers submit a report covering the student's performance.

In a sense the cooperative work plan is another laboratory with certain distinct advantages:

1. It is exploratory. The student has a chance to survey and evaluate a number of different jobs within his field. At the same time he can take stock of his own aptitudes and abilities.

2. It is an opportunity to correlate classroom studies with actual work experience.

3. It is a means of demonstrating the importance of human relations in the work situation.

4. It provides for at least partial self-support without the necessity of time-consuming work outside of school.

Work periods for students in Chemical, Electrical and Mechanical Technology alternate during the year. Work periods for students in Automotive Technology and the Office Assistants curriculums normally occur in the Summer term.

EXTENSION PROGRAM

The Extension Division of the Institute offers unit courses on a part-time basis to employed men and women. Its purpose is to provide an opportunity for the adults of the community to extend their education and for the graduates of the day program to continue their education in specialized fields. The program includes some courses for college credit.

The courses are conducted in the late afternoon or evening for two terms per year, starting about October first.

An applicant for admission must satisfy the Director of Admissions by personal interview that he is qualified to profit by the instruction given and can successfully complete the courses selected.

The Extension Program is only partially supported by the State, necessitating payment by the student of modest tuition and laboratory fees.

STUDENT ACTIVITIES

The Institute recognizes that students need the stimulus and diversion of co-curricular activities and that students themselves should originate and carry out such a program under faculty supervision.

The Student Council

The governing body is the Student Council with representatives from the various curriculums and officers elected from the student body at large. It has the responsibility of promoting and coordinating student affairs. It authorizes clubs and activities and allocates to the organizations funds paid by students as the Activity Fee. The Activity Fee entitles students to admission to varsity games, informal dances and parties, and a subscription to Tech Talk, student newspaper.

Athletic Committee

The Athletic Committee supervises the sports program and the expenditure of funds for athletic purposes.

Varsity Sports

The name, "State Tech Hornets" is becoming well known in intercollegiate sports. Basketball and baseball are the major sports. Volleyball, tennis, golf, track and bowling make up the minor sports. State Tech is a member of the Empire State Conference and the National Junior College Athletic Association. In the 1950-51 season the basketball team won the Empire State Conference title and the Region 15 Junior College playoffs. The team ended the season by playing in the National Junior College tournament at Hutchinson, Kansas.

Intramural Sports

Students of average athletic ability have an opportunity to participate in intramural sports. Teams representing the various curriculums make up the leagues in basketball, volleyball and bowling.

Cheerleaders

Positions on the varsity and junior varsity cheerleading squads are open to both men and women on a competitive basis.

Social Committee

The Social Committee has charge of planning dances, parties and picnics. Most of the affairs are informal and are held in the gymnasium.

Convocation Committee

A joint student-faculty committee has the responsibility of planning the convocation programs.

Publications

Tech Talk is the student newspaper published once a month and devoted to the reporting of news and features of Institute life. The yearbook is known as the Citadel. Positions on both publications are open to students interested in writing, art and advertising.

Music

The Glee Club attracts students with an interest in vocal music. It makes frequent appearances at student and community functions. The Dance Band furnishes music for many of the college dances. Mu Alpha Sigma is a society devoted to the development of music appreciation.

Camera Club

For those interested in photography the Camera Club provides the chance to get experience in picture taking, developing, printing and enlarging. A well-equipped darkroom is available for student use. Most of the photographic work on the newspaper and yearbook is done by members of the club under competent faculty supervision.

Varsity Club

Lettermen in the major sports are eligible for membership in the Varsity Club, whose purpose is to further interest in inter-collegiate competition. The Club annually selects and presents a trophy to the athlete of the year.

Awards

Outstanding participation in the above activities is recognized by a system of awards consisting of letters, emblems and certificates.

Technical Societies

Students in the technology curriculums have the privilege of becoming associated with professional men in their field by joining the student chapter of one or more of the technical societies:

Southern Tier Technical Society—student member

American Institute of Electrical Engineers—student member of local chapter

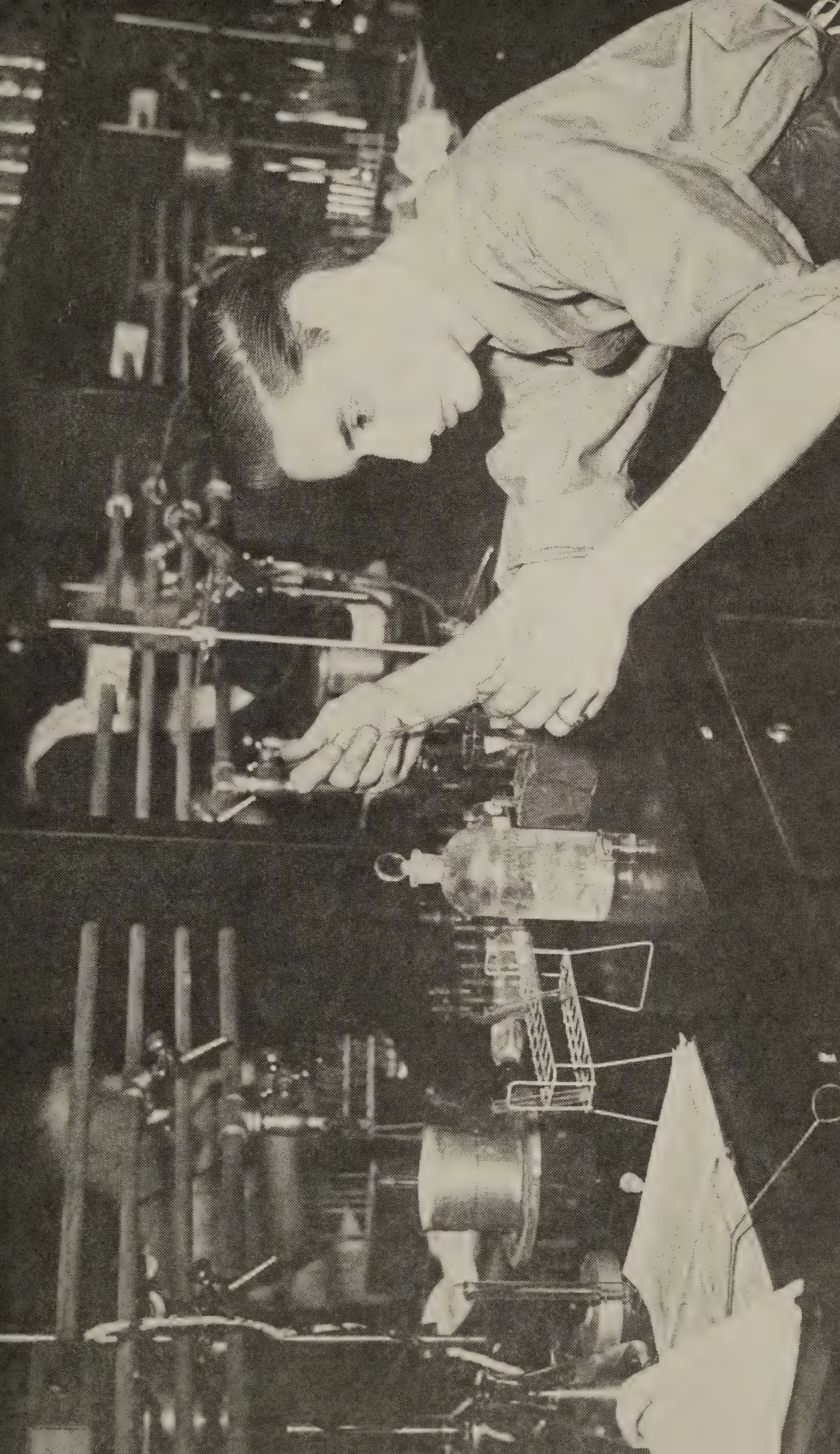
American Chemical Society—student associate of local chapter

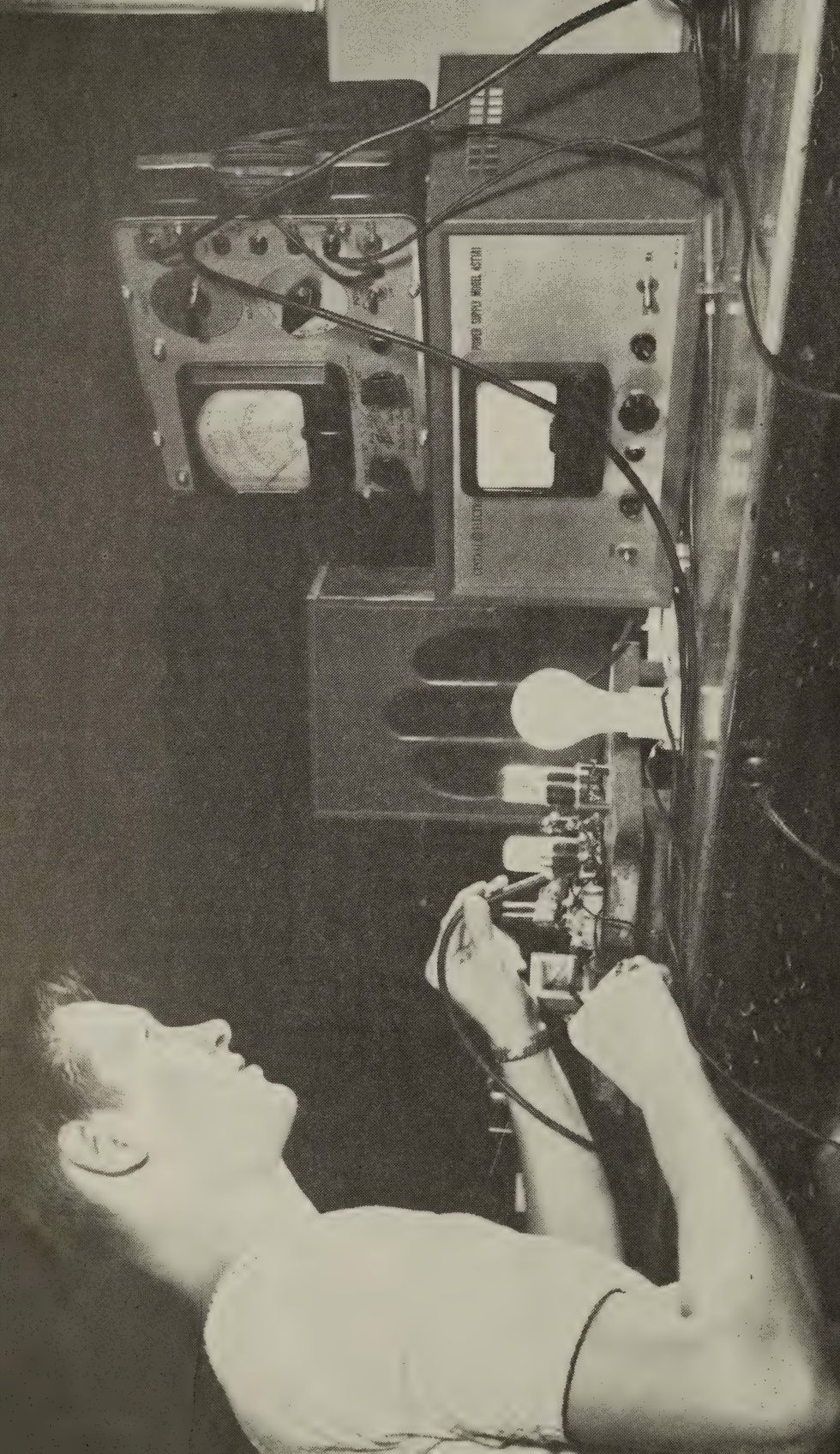
Members may attend meetings of the senior chapter, hear lectures given by outstanding men in technical fields, and see films and demonstrations on new developments.

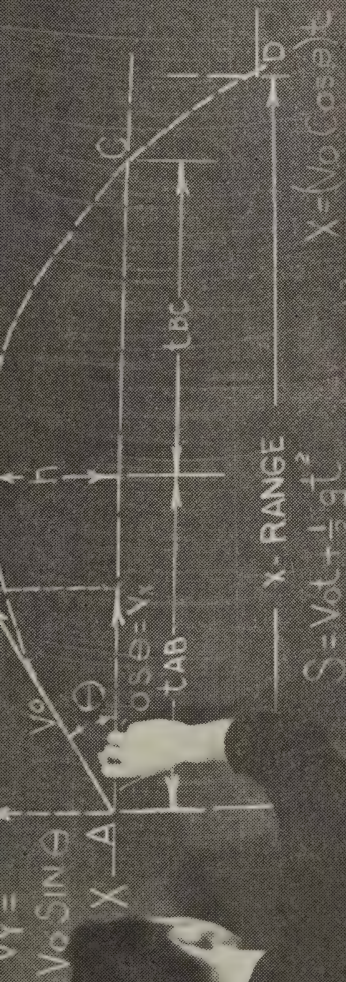
Alumni Association

Graduates are eligible for membership in the Alumni Association. Two annual events highlight the Association's activities: Spring Day featuring an Alumni-Varsity baseball game and a picnic, and early in December a dinner, election of officers and an Alumni-Varsity basketball game.

The payment of dues permits members to attend these events without charge and to receive a subscription to Tech Talk.







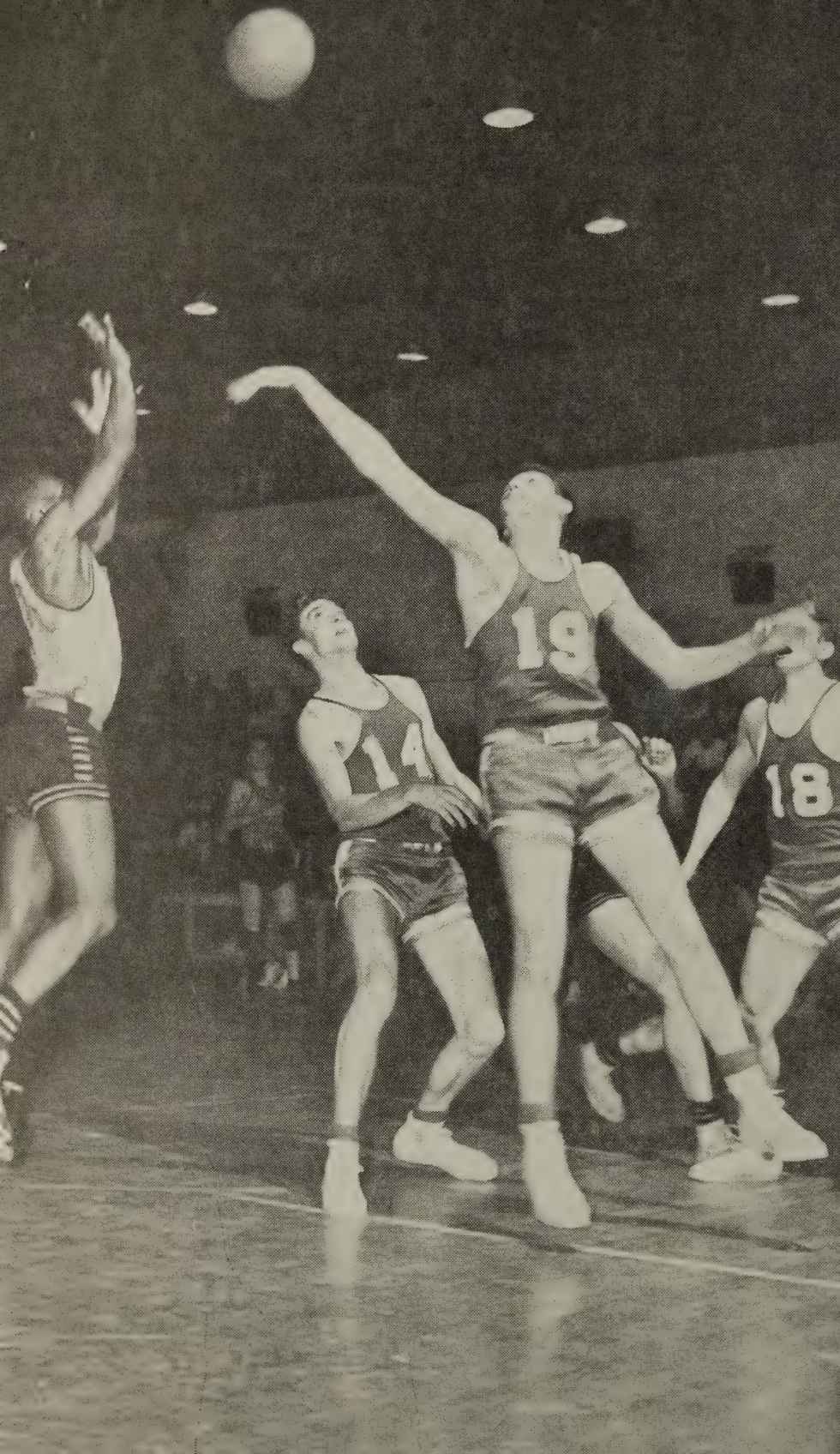
X - RANGE

$$S = V_0 t + \frac{1}{2} g t^2$$

$$Ft / \sin \theta = (V_0 \sin \theta) t + \frac{1}{2} (-g) t^2$$

$$h = 120 \times (14)t + \frac{1}{2} (-32.2)t^2$$

$$X = (V_0 \cos \theta) t$$







GENERAL EDUCATION

Considerable emphasis is placed on the vocational objective in all the curriculums. However, the Institute is equally concerned with the broader objective of well-rounded personal development.

A worker does not function in a vacuum. He works with and for other people, makes decisions which affect himself and others, expresses his views, is aware of the value of good health. Outside of working hours he has obligations to his family, takes part in community affairs, and is concerned with the welfare of his country and its relations with other countries.

All of these activities influence his effectiveness as a worker and a member of society. Therefore General Education should be and is an important part of the Institute instruction.

Communication Skills courses seek to develop an appreciation of language as a means of communication, and facility in the use of the spoken and written word.

A sequence of courses in the Social Sciences is concerned with a study of modern society, economic problems and sociology.

Factors in personal and community health are studied in the classroom, and recreation is provided in physical education classes.

Psychology gives the students an insight into human nature which will prepare them for acceptable service in the industrial and professional world.

Students in the technology curriculums are given an introduction to the rapidly expanding field of industrial and labor relations.

In these non-technical studies and in the varied program of student activities described elsewhere, opportunity is given to develop the skills, knowledge and attitudes for the living of a satisfying life.

GENERAL EDUCATION

COMMUNICATION SKILLS (71)

3 credit hours

A study of the structure of the English language: history, symbolism, context, denotation, connotation, fiction terms, report language. Similarities and differences of oral and written English. Oral and written presentation of clear, comprehensive summaries. Development of reading skill.

COMMUNICATION SKILLS (72)

3 credit hours

A study of levels of usage, conventions of grammar, usage, sentence construction. A study of the effective organization of ideas. Practice in oral and written exposition and the writing of technical reports.

COMMUNICATION SKILLS (73)

3 credit hours

Business correspondence. Types and techniques of group discussion. A study of the media of mass communication—press, film, radio, television.

COMMUNICATION SKILLS (74)

3 credit hours

Advanced writing problems. Individual projects. Panel discussions and symposiums. Parliamentary procedure.

MODERN SOCIETY (76)

3 credit hours

A survey of occupational objectives; professional ethics; the functioning of our economic system; labor-management relations; technological progress and its effects on modern life.

ECONOMIC PROBLEMS (77)

3 credit hours

A continuation of the study of the basic principles of our economic system and their applications. The place of the consumer in the economic system. Wages, prices, and profits; money and banking; international trade and present-day international affairs.

SOCIOLOGY (78)

3 credit hours

A study of social organization and control, including racial and minority problems; taxation; modern democratic governments; public opinion and propaganda; education; current social problems.

PSYCHOLOGY (710)**3 credit hours**

Designed to give the students insight into human nature which will prepare them for acceptable service in the professions. Personality development, techniques involved in dealing with people, vocational adjustment and efficiency, intelligence, learning, leadership and mental hygiene.

INDUSTRIAL AND LABOR RELATIONS (212), (3352)**3 credit hours**

An introduction to the rapidly expanding field of industrial and labor relations. The use of case histories as a solution for many different types of problems. Time and motion study, job evaluation ,merit rating, employee compensations, the selection, training, and care of workers, and labor relations.

HEALTH (714), (715)**4 credit hours**

The meaning of health in terms of life values; biological basis of sound health; community measures effective in promotion of health; safety and common industrial hazards; principles of first aid.

AUTOMOTIVE TECHNOLOGY

The nation's industrial mobilization program is certain to affect the automotive industry for some years to come. The diversion of steel and other metals for military production is likely to curtail the output of new cars for civilian use.

One result is obvious. Many owners will be forced to get more mileage out of their present cars. This situation throws an added burden on the service agencies. It points up the need, already acute, for trained persons competent to diagnose and supervise the maintenance of passenger cars and trucks.

The Automotive Technology course has been developed in cooperation with the leading automobile manufacturers who are anxious to encourage young men to enter the field, not as automobile mechanics but as diagnosticians, service technicians and supervisors, and service station managers and owners.

Nearly all branches of science are involved in a comprehensive understanding of the automotive vehicle. The curriculum is a technical one based on the fundamentals of chemistry, lubrication, hydraulics, electricity, and the internal combustion engine, together with special applications of the fundamental sciences to the operation and maintenance of the automobile.

Since automotive service involves business procedures and a great deal of "human relations", a considerable amount of time is devoted to the business management and sales phases of the business.

CURRICULUM OUTLINE

Automotive Technology

FIRST YEAR

	<i>First Term</i>	<i>Credit Hours</i>
1417	Mathematics	5
1455	Heat	4½
1224	Chemistry	5½
1457	Shop	2
1431	The Automotive Industry	2
71	Communication Skills	3
714	Health	2

Second Term

1418	Mathematics	3
1351	Electricity	4½
1421	Drawing	1
1225	Chemistry	4½
1458	Shop	1
1432	Internal Combustion Engines	4½
72	Communication Skills	3

Third Term

1419	Mathematics	3
1352	Electricity	4½
1422	Drawing	1
1454	Mechanics	4½
1458-A	Shop	1
1433	Internal Combustion Engines	4½
73	Communication Skills	3

SECOND YEAR

	<i>First Term</i>	<i>Credit Hours</i>
1423	Drawing	3
1353	Electricity	4½
1435	The Automobile	2
784	Accounting	1½
1543	Business Organization and Management.	3
76	Modern Society	3

Second Term

1456	Fluid Mechanics	4½
1459	Materials of Industry	4½
1436	The Automobile	3
1438	Diagnostic Laboratory	1½
785	Accounting	1½
1544	Business Organization and Management.	3
77	Economic Problems.	3
715	Health	2

Third Term

1437	The Automobile	3
1439	Diagnostic Laboratory	3
1541	Accounting	1½
1545	Merchandising	3
1546	Business Law	3
78	Sociology	3

AUTOMOTIVE TECHNOLOGY

MATHEMATICS (1417)

5 credit hours

Technical mathematics: review of fundamental processes; algebra and its applications to the solution of technical problems; use of the slide rule.

MATHEMATICS (1418)

3 credit hours

Trigonometry and its applications; use of logarithms; specialized mathematics related to the automotive field.

MATHEMATICS (1419)

3 credit hours

Business mathematics as a basis for accounting and business operation.

DRAWING (1421), (1422)

2 credit hours

Orthographic projection, as a basis of understanding mechanical drawing and sketches. The study of drawing conventions and details. Assembly drawings, isometric sketching, exploded views, wiring diagrams and piping diagrams.

DRAWING (1423)

3 credit hours

The study of machine motion and basic mechanisms. Instantaneous velocities in machine parts, gears, cams and the theory of their design and operation, fundamental principle of planetary gearing. Special emphasis on automotive applications.

AUTOMOTIVE INDUSTRY (1431)

2 credit hours

The history of the manufacture of automobiles as a factor in American economy. The dealer, dealership and service stations as examples of small business organizations. Basic considerations of these businesses.

INTERNAL COMBUSTION ENGINE (1432), (1433)

9 credit hours

The fundamental study of the internal combustion engine; theoretical cycles and applications to the engine. Standard tests on an engine. The study of factors affecting mixture, carburetion, ignition, starting, vapor lock. Laboratory work involving the problems above.

THE AUTOMOBILE (1435)**2 credit hours**

The construction of the automobile. The drive system including transmission, clutch, fluid drive, over-drive, universal, differential, bearing, wheels.

THE AUTOMOBILE (1436), (1437)**6 credit hours**

Front and rear suspension system, frame, steering systems, and component chassis parts. The body construction, cooling system, brakes, engine mounts, and other accessories.

DIAGNOSTIC LABORATORY (1438)**1½ credit hours**

Scientific diagnosis of the engine and component parts; compression, ignition, fuel flow, timing, etc. The use of instruments and special machines.

DIAGNOSTIC LABORATORY (1439)**3 credit hours**

Analysis and tests of steering, brakes, suspension, lights, wheels, etc. Special problems associated with automotive service.

CHEMISTRY (1224)**5½ credit hours**

General Chemistry with emphasis on combustion, topics selected to provide a basis for the study of petroleum.

CHEMISTRY (1225)**4½ credit hours**

Organic Chemistry with special application to the products of petroleum.

ELECTRICITY (1351) (1352)**9 credit hours**

The fundamentals of electrical circuits with particular emphasis on direct-current application; units, magnetism and induction. The study of electrical machines, motors, generators, voltage regulators, relays, batteries with emphasis on the applications to the automotive field.

ELECTRICITY (1353)**4½ credit hours**

Alternating current and circuits. The fundamentals of the electron tube and electronic circuit with applications to instruments and controls.

MECHANICS (1454)**4½ credit hours**

Principles of statics and dynamics; study of forces, friction, work, power, energy, momentum, impulse and impact.

HEAT (1455)**4½ credit hours**

Applied physical principles of heat, pressure, volume, temperature and their measurement. Study of the basic internal combustion engine cycles.

FLUID MECHANICS (1456)**4½ credit hours**

The use of the General Energy Equation in the study of the flow of fluids; Bernauli's Equation; compressible fluids; hydraulics; fluid flow measurement; instruments; hydraulic pumps and turbines.

SHOP (1457), (1458), (1458-A)**4 credit hours**

General machine shop processes applicable to the automotive field. Operations of the lathe, grinder, drill press, use of hand tools and measuring instruments. Welding and forming of metal; heat treatment of steel; use of honing and grinding equipment; study of inspection methods.

MATERIALS OF INDUSTRY (1459)**4½ credit hours**

Elementary strength of materials and metallurgy; metallic and non-metallic materials and their application to the automobile.

BUSINESS ORGANIZATION AND MANAGEMENT (1543), (1544)**6 credit hours**

Organization of business, dealership, parts wholesalers, service stations, methods of business financing, source of funds, preparation and analysis of financial statements. Fundamental principles of management, personnel management, inventory control, purchasing, plant maintenance and safety.

MERCHANDISING (1545)**3 credit hours**

Marketing of consumer goods, market research, advertising, sales promotion, fundamentals of salesmanship, sales force organization, sales aids and techniques.

BUSINESS LAW (1546)**3 credit hours**

Contracts, sales agreements, real and personal property, partnerships, corporations, finance agreements, labor law, tax law, guarantees, negotiable instruments, tenancies, bankruptcy, receivership, carriers, warehousing, deeds, mortgages, and mortgage relationships.

ACCOUNTING (784), (785)**3 credit hours**

The science of record keeping from the basic definition of terms and the fundamental accounting equation through books of original entry, final entry, and the trial balance. Numerous practical problems based on each topic. A continuation of Accounting 784—adjusting, closing the books, worksheet, bad debts, depreciation, general and subsidiary ledgers. Problems and set.

ACCOUNTING (1541)**1½ credit hours**

Classification of accounts, business transactions, journal, ledger, working papers, depreciations, reserves, adjusting entries, closing processes. Elements of cost control; use of dealer accounting practice set.

CHEMICAL TECHNOLOGY

The chemical industry faces a serious shortage of technical graduates to take positions in this rapidly expanding field. This is the unanimous opinion of personnel directors of the major chemical industries of the nation. The man-power shortage is expected to be critical for some years to come. The reason is the law of supply and demand: there are not enough technical graduates coming out of the colleges for the basic chemical industries or for the industries which use chemicals or chemical products in manufacturing.

The Chemical Technology curriculum prepares young men and women for a variety of positions: in laboratories (analytical, control, research, development and testing); in pilot plants; in sales; and in production as operators and supervisors on production processes and operations.

The curriculum includes the basic chemistry courses: general chemistry; qualitative analysis, quantitative analysis, and organic chemistry; mathematics with the focus on the solution of practical chemistry problems; and some of the more advanced engineering courses such as unit operations, physical chemistry, and industrial chemistry. Since chemical processes involve sciences in other engineering fields, courses are offered in electricity, mechanics, metallurgy, and drawing.

CURRICULUM OUTLINE

Chemical Technology

FIRST YEAR

	<i>First Term</i>	<i>Credit Hours</i>
217	Mathematics	5
222	Chemistry—General.	5½
2341	Electricity	4½
2420	Drawing	2
71	Communication Skills	3
76	Modern Society.....	3

Second Term

218	Mathematics	4
222-2	Chemistry—General	5½
223	Chemistry— Qualitative	4
2342	Electricity	4½
72	Communication Skills	3
77	Economic Problems..	3
714	Health	2

Third Term

219	Mathematics	4
223-L2	Chemistry— Qualitative	3
224	Chemistry— Quantitative	6
226	Chemistry—Organic	6
73	Communication Skills	3

SECOND YEAR

	<i>First Term</i>	<i>Credit Hours</i>
225	Chemistry— Quantitative	6
227	Chemistry—Organic	6
2443	Mechanics	4½
2444	Metals and Alloys...	4½

Second Term

228	Chemistry—Organic	6
229	Industrial Chemistry	6
233	Instrumental Methods of Analysis.....	3½
78	Sociology	3
212	Human Relations...	3
715	Health	2

Third Term

230	Industrial Chemistry	6
234	Instrumental Methods of Analysis.....	3½
231	Physical Chemistry.	4½
2445	Strength of Materials	4½
	Non-Technical Elective	3

CHEMICAL TECHNOLOGY

MATHEMATICS (217)

5 credit hours

Slide rule instruction and basic arithmetical and algebraic operations. Practical applications in general chemistry and future studies in the chemical field.

MATHEMATICS (218)

4 credit hours

Trigonometric principles; theory and use of logarithms; graphical representation and interpretation; chemical calculations which include the various applications of the law of mass action.

MATHEMATICS (219)

4 credit hours

Chemical calculations supplementary to the quantitative chemistry course. Problems used in making quantitative analysis calculations; oxidation-reduction, chemical factors, acid-base types, typical gas analysis.

CHEMISTRY-GENERAL (222), (222-2)

11 credit hours

The study of the basic laws and principles of chemistry. Emphasis on atomic theory, chemical equations, problems, and basic laboratory techniques.

CHEMISTRY-QUALITATIVE (223-L2)

3 credit hours

A laboratory course consisting of a systematic scheme of analysis, based on the system of A. A. Noyes, for the common cations and anions and a study of the reactions involved. The technique is on a semi-micro scale.

CHEMISTRY-QUALITATIVE (223)

4 credit hours

The study of the laws of solubility, ionizations, oxidation reduction, and their relationship to analytical laboratory procedures.

CHEMISTRY-QUANTITATIVE (224)

6 credit hours

A study of the apparatus and techniques used in analytical work. Weighing, calibration of apparatus, sampling, and recording of data. A prescribed number of fundamental quantitative separations.

CHEMISTRY-QUANTITATIVE (225)**6 credit hours**

Analysis of commercial, industrial products by gravimetric and titrimetric methods, using different analytical procedures.

CHEMISTRY-ORGANIC (226)**6 credit hours**

A basic course which covers hydrocarbons and their derivatives. The study of aliphatic and aromatic compounds.

CHEMISTRY-ORGANIC (227)**6 credit hours**

Study of polysubstituted and mixed compounds and the special results of certain structures.

CHEMISTRY-ORGANIC (228)**6 credit hours**

An advanced course which covers some important industrial branches of organic chemistry such as protein, dye, cellulose, furane chemistry. Some consideration of the systematic identification of organic compounds.

INDUSTRIAL CHEMISTRY (229)**6 credit hours**

A representative study of chemical processes and their adaptation to an industrial level, including those processes which are most general in their application to industry; polymerization, neutralization, electrolysis, nitration, halogenation, alkylation, and others.

INDUSTRIAL CHEMISTRY (230)**6 credit hours**

The physical aspects involved in the manufacturing of chemicals and allied products, aspects dealing with physical changes on or in materials. Unit operations studied, among others: flow of fluids, heat transfer, size reduction and separation, filtration, evaporation and distillation. Laboratory results in the form of technical reports.

PHYSICAL CHEMISTRY (231)**4½ credit hours**

The study of the physical properties and structure of matter, with the laws of chemical interaction and with the theories governing these. Definition of the properties of gases, liquids, and solids. Establishment of the energy relationships involved.

INSTRUMENTAL METHODS OF ANALYSIS (233), (234)

3½ credit hours

Emphasis on routine methods of analysis used in industry and in research. The theory of electrolysis, potentiometric titrations, refraction, viscosity, colorimetry, etc. Some instruments used: Colorimeters, refractometers, Fisher titrimer, PH meter, spectrophotometer, polarograph, viscosimeters, microscopes. Laboratory results in the form of technical reports.

ELECTRICITY (2341)

4½ credit hours

Fundamentals of electricity, and their application to electrical circuits. The principles of direct-current motors and generators; voltage, current, and power in a-c circuits; the various types of a-c motors and their application to particular jobs.

ELECTRICITY (2342)

4½ credit hours

Study of the basic electronic principles underlying the many applications of electronic control and measurement. The theories of light, sound, and electrons, followed by the application of these theories to the operation of electronic tubes and circuits which are basic in the chemistry field.

DRAWING (2420)

2 credit hours

An introductory course in mechanical drawing. Instruction in the use of instruments, drafting conventions, dimensioning, and orthographic projection. Emphasis on detail and working drawings, piping layouts, structural layouts, and projects.

MECHANICS (2443)

4½ credit hours

The study of forces, their measurements, and the solution of problems involving these various forces. Graphical representation, coplanar, non-concurrent, and parallel forces in equilibrium, friction, motion, moments of inertia and centers of gravity, work, energy, and power.

METALS AND ALLOYS (2444)**4½ credit hours**

A basic course dealing with the physico-metallurgical aspects of the common metals and alloys. Phase diagrams, cooling curves, the theory behind the principal methods of treating alloys, the effects of the different alloys on the basic metals, and uses of the various alloys.

STRENGTH OF MATERIALS (2445)**4½ credit hours**

An introductory course to show the student the relationship of stress and strain, the calculation of stress in structural materials, the effect of loading on stress distribution, use of shear and moment diagrams. A. S. T. M. testing procedures used in laboratory work.

ELECTRICAL TECHNOLOGY

Workers in the electrical field have long been of two types: the professional engineer and a variety of electrical craftsmen. Today industrial and management officials are seeking a third type of worker—one who has a broader theoretical training in the fundamentals of electrical engineering than has the craftsman, and yet one who has more practical knowledge than does the engineer. Such an individual must have sufficient training of the type usually acquired by the craftsman to supervise and command respect. He must also have enough basic engineering training to be able to work on his own responsibility or with a minimum of professional direction.

The Electrical Technology course includes electrical theory and the application to direct and alternating-current machinery, industrial control equipment and industrial electronic apparatus; mathematics, not as an end in itself but with principles related to engineering practice and problem-solving; drawing (drafting and sketching) for the understanding and producing of working drawings of electrical equipment and its installation; the study of physical laws with special emphasis on those upon which electrical engineering is based; and shop and laboratory work to illustrate the theoretical aspects of electrical engineering, and to provide first-hand experience in all phases of electrical work. Emphasis throughout the curriculum is on the “why” rather than on the “how”.

CURRICULUM OUTLINE

Electrical Technology

FIRST YEAR

	<i>First Term</i>	<i>Credit Hours</i>
317	Mathematics	3
321	Drawing	2
330	Electricity	5½
341	Construction and Maintenance	2
71	Communication Skills	3
76	Modern Society.....	3
<i>Second Term</i>		
318	Mathematics	3
322	Drawing	2
331	Electricity	5½
342	Construction and Maintenance	2
72	Communication Skills	3
77	Economic Problems..	3
714	Health	2
<i>Third Term</i>		
319	Mathematics	3
323	Drawing	1
332	Electricity	5½
343	Construction and Maintenance	2
3346	Mechanics	3
73	Communication Skills	3
78	Sociology	3

SECOND YEAR

	<i>First Term</i>	<i>Credit Hours</i>
320	Mathematics	3
324	Drawing	1
333	Electricity	5½
338	Electronics	6½
3227	Chemistry	3½
3351	Production and Management	2
<i>Second Term</i>		
325	Drawing	1
334	Electricity	5½
335	Electricity	4½
339	Electronics	6½
3352	Industrial and Labor Relations	3
715	Health	2
<i>Third Term</i>		
326	Drawing.	1
336	Electricity	5½
337	Electricity	4½
340	Electronics	6½
3447	Strength of Materials	4

ELECTRICAL TECHNOLOGY

MATHEMATICS (317)

3 credit hours

Use of the slide rule; applications of arithmetic; fundamental operations of algebra; equations and formulas; graphical representation; logarithms; and special problems applying algebra to the field of electricity.

MATHEMATICS (318)

3 credit hours

A study of angles, functions of angles, solutions of the right triangle, the sine and cosine laws, their applications to electricity and trigonometric equations and identities.

MATHEMATICS (319)

3 credit hours

Application of theory and mathematics to the solution of typical electrical problems. Calculation of current, voltage and power in d-c circuits, inductance and capacitance, magnetic circuit calculations, transmission and distribution of d-c power. Conversion of electrical energy to mechanical energy.

MATHEMATICS (320)

3 credit hours

Calculation of current, voltage and power in single-phase and three-phase circuits; generation, transmission and distribution of electrical energy as well as the calculation of losses and efficiencies of d-c motors and generators.

DRAWING (321)

2 credit hours

An introductory course in mechanical drawing. The selection, care and use of instruments found in modern drafting rooms. The technique of good lettering, practical geometry and geometric construction, the principles of orthographic projection and the theory and application of dimensioning.

DRAWING (322)

2 credit hours

Technical sketching and pictorial representation. Applications of auxiliary views, sections and conventions used in orthographic projection. The types and representation of threads, nuts, bolts, keys, keyways and locking devices. Discussion of shop processes and procedures to facilitate the understanding of drafting problems which arise in the industrial drafting room. Emphasis on free-hand sketching of electrical apparatus and mechanisms.

DRAWING (323)***1 credit hour***

The construction and interpretation of working and assembly drawings. Applications pertaining to electrical apparatus to accustom the students to working to scale as well as to familiarize them with the mechanical operation of electrical control mechanisms. Electrical symbols and technical terms encountered in schematic diagrams, their applications and construction. Drafting room procedures and duplicating methods.

DRAWING (324)***1 credit hour***

Electrical drafting to further the students' understanding of the principles of lighting design, wiring layouts, and the interpretation of schematic diagrams as applied to electrical control equipment. The use of catalogs, charts, data sheets and the National Electrical Code book to obtain information needed for the layout and design of electrical circuits. Preparation of material lists and estimates of cost. Planning of lighting and control wiring layouts.

DRAWING (325)***1 credit hour***

A further study of control circuit diagrams and outline drawings of panel and switch boards. Layouts of substations and transmission circuits. Interpretation of the schematic and one-line diagrams that are the engineering language of the electrical industry.

DRAWING (326)***1 credit hour***

The application of electrical drafting in the field of electronics. Symbols, conventions, layout procedures, and circuit sequence that comprise an electronic circuit. The design of a circuit for an electronic device that the students may wish to construct, test and operate.

ELECTRICITY (330)***5½ credit hours***

A study of the fundamentals of direct current, to enable the student to put into practice the theory he has learned. Series, parallel, and series parallel circuits; safety; use and protection of equipment; and laboratory techniques.

ELECTRICITY (331)***5½ credit hours***

Continuation of the first term work in direct current dealing mostly with inductance and capacity in the first part. Fundamental a-c circuits including phase relations, power, impedance and vector notation.

ELECTRICITY (332)**5½ credit hours**

A-c instruments and measurements, polyphase circuits, transmission lines, and transformers.

ELECTRICITY (333)**5½ credit hours**

A study of the theory of operation and characteristics of d-c machinery to give the student a sound background upon which he may base his judgment in solving problems that may arise in this field. A moderate amount of time devoted to design features. Considerable problem work for the purpose of giving the student a better understanding of the practical significance of the theory studied. Consideration of a few of the more basic types of specialized d-c machinery.

ELECTRICITY (334), (336)**11 credit hours**

First course in a-c machinery. Power transformers, special transformers, alternators, synchronous motors, wound rotor motors and single-phase motors, studied from the point of view of internal operation and principles of operation together with industrial applications.

ELECTRICITY (335)**4½ credit hours**

Electrical device design and construction, and the methods of starting, stopping, braking and speed control of d-c motors. Special applications such as machine tool panels. Laboratory work in connecting, operating and trouble-shooting d-c control panels.

ELECTRICITY (337)**4½ credit hours**

A study of the principles underlying the control of machinery and the commercial methods of accomplishing this. The theory of electronic control and protective devices of d-c motors. A-c contactors, relays and protective devices for a-c motors. Starting, stopping, reversing, and braking devices of a-c motors. Safety precautions and maintenance of equipment. Wiring, maintenance and trouble-shooting of industrial control equipment.

ELECTRONICS (338)**6½ credit hours**

Introductory course in electronics. The fundamentals of vacuum tubes and their application as rectifiers and amplifiers. A study of the method by which electronic circuits are divided into the basic "building blocks" of which the circuits are composed.

ELECTRONICS (339)**6½ credit hours**

A study of modulation and demodulation, to complete the students' knowledge of the basic "building blocks" of electronic tubes, such as the thyratron, mercury arc, ignition and excitron. The principles of oscillation and the application in practical oscillators.

ELECTRONICS (340)**6½ credit hours**

A study of the utilization of the "building blocks" of electronics. Electronic applications of control, such as electronic timing, photoelectric relays, resistance-welding control and electronic motor control, broken down into the familiar "building blocks". Possible causes of trouble with representative symptoms analyzed. Electronic regulator applications such as voltage-controlled power supplies, anti-hunting control, speed control, and temperature control.

CONSTRUCTION AND MAINTENANCE (341), (342), (343)**6 credit hours**

A sequence of courses to familiarize the student with general trade practices and the acquiring of basic manipulative skills. A wide variety of experience in the installation and maintenance of electrical equipment. Basic training in different types of wiring systems used in industry and homes; trouble shooting and repair of various types of electrical equipment; use of the lathe, drill press, shaper, welder, and other associated equipment. The study of the National Electrical Code Rules, general shop safety practices. Some electrical estimation work.

CHEMISTRY (3227)**3½ credit hours**

The study of the basic laws of chemistry and the most common elements and compounds. The uses of these common elements and compounds and their special applications in the field of electricity and everyday life. The structure of matter, electrolytic reactions, corrosion, fuels, chemistry of metals and plastics.

MECHANICS (3346)**3 credit hours**

Static and dynamic mechanics. A presentation of the basic principles of mechanics to the student so that he may apply these principles to problems of practical value. Emphasis on the physical rather than the mathematical nature of problems.

MECHANICAL TECHNOLOGY

The mechanical field embraces a wide area of activity covering the design, construction, operation and maintenance of mechanical equipment, as well as the field of manufacturing. Most machines in use today involve mechanical operations even when the main function may be performed and controlled electrically.

The Mechanical Technology course provides training in the basic engineering courses such as mathematics, mechanics, drawing, chemistry and electricity. These principles are applied to the study of strength of materials, thermo-dynamics, metals and alloys and quality control. The emphasis is on theory with related work in shop and laboratory to familiarize the student with basic tools, machines and methods used in the mechanical field.

Courses are also offered in industrial management, human relations, and accounting. Inspection trips to industrial plants are occasionally made.

Graduates are qualified for employment in the mechanical phases of design and manufacture in such positions as draftsman, layout man, laboratory assistant, mechanical maintenance man, and installation and service technician. There is opportunity for advancement to supervisor, methods man, master mechanic, and tool and machine designer.

CURRICULUM OUTLINE

Mechanical Technology

FIRST YEAR

	<i>First Term</i>	<i>Credit Hours</i>
417	Mathematics	5
429	Shop	2
421	Drawing	2
438	Heat	4½
4227	Chemistry	4½
71	Communication Skills	3
714	Health	2

Second Term

418	Mathematics	3
430	Shop	2
422	Drawing	1
436	Mechanics	4½
4228	Chemistry	4½
72	Communication Skills	3
76	Modern Society.....	3
715	Health	2

Third Term

419	Mathematics	3
431	Shop	2
423	Design	4½
437	Mechanics	4½
4351	Electricity	4½
73	Communication Skills	3
77	Economic Problems..	3

SECOND YEAR

	<i>First Term</i>	<i>Credit Hours</i>
420	Mathematics	3
432	Shop	2
439	Strength of Materials	4½
440	Metals and Alloys..	4½
4352	Electricity	4½
78	Sociology	3
446	Management	3

Second Term

434	Mechanical Machinery	5½
425	Design	5
433	Advanced Processes and Materials	4½
4353	Electricity	4½
447	Management	3

Third Term

435	Mechanical Machinery	5½
441	Quality Control.....	4½
	Technical Elective...	5
74	Communication Skills	3
448	Management	3
	Non-Technical Elective	3

MECHANICAL TECHNOLOGY

MATHEMATICS (417)

5 credit hours

A review of arithmetic, algebra and geometry; emphasis on the applications of arithmetic, algebraic and geometric processes to technical problems. Study and use of the slide rule.

MATHEMATICS (418)

3 credit hours

Plane trigonometry, especially its application to technical work. Study and use of the j operator. Continued application of algebraic processes to technical problems. Extensive use of the slide rule.

MATHEMATICS (419)

3 credit hours

Study of the relations between equations and graphs. Equations of straight lines, circles, and conic sections; empirical equations and graphs.

MATHEMATICS (420)

3 credit hours

Study of maxima and minima, rates of change, of velocities and accelerations, and of their relation to practical technical work. Extended application of mathematics to solution of problems.

DRAWING (421)

2 credit hours

An orientation course in the basic phases of engineering drawing including orthographic projection, pictorial representation, geometric construction and pattern development. Free-hand sketching of models, machine parts and structure.

DRAWING (422)

1 credit hour

Emphasis on detail and assembly working drawings. Selected projects to illustrate the conventions and standards of weldings, piping, tolerances, and structural layouts.

DESIGN (423)

4½ credit hours

A study of the motion of machine parts. The analysis and solution of problems pertaining to linkages, cams, belting and rolling contact.

DESIGN (425)

5 credit hours

The first course in machine design covering the selection of materials, stress investigation, and the design of the fundamental machine elements. Individuals projects under supervision, simulating the procedures of conventional industrial practice.

MACHINE SHOP (429)**2 credit hours**

The elements of machine tool operations involving the lathe, miller, shaper and drill press; fundamental bench operations; introduction to forge work; principles of tool grinding, feeds and speeds, lubrication and safety practice.

MACHINE SHOP (430)**2 credit hours**

Advanced machine tool operations on the lathe, miller, and grinder; small parts assembly; arc and oxy-acetylene welding and controlled heat treatment of steel.

MACHINE SHOP (431)**2 credit hours**

Special machine operations and advanced practice on boring, milling, tool and cutter grinding; inspection, contour sawing, and metal melting.

MACHINE SHOP (432)**2 credit hours**

Designed to amplify and extend the previous work in shop practice. The opportunity for individual planning and specialization in the direction of construction of a machine, tool, jig, or fixture.

ADVANCED MATERIALS AND PROCESSES (433)**4½ credit hours**

An advanced study of strength of materials and metallurgy as applied to the manufacturing processes. The study of weld tests and inspection, corrosion, fatigue, creep, hardenability, stress concentration, machine loading, with closely correlated laboratory work.

MECHANICAL MACHINERY (434)**5½ credit hours**

The study of the flow of fluids, hydraulics, properties of fluids, centers of pressure, buoyancy, flow through orifices, channels, nozzles, weirs, pipe, ducts. Energy equations, basic heat cycles. Tests on pumps, compressors, fans. Calibration of weirs, venturimeters, orifices, pipe losses.

MECHANICAL MACHINERY (435)**5½ credit hours**

Testing of internal combustion engines. The study of combustion and products of combustion, specific heats, vapor processes and cycles, steam power plants, engines, boilers, refrigeration and transfer of heat. Principles of surveying.

MECHANICS (436)**4½ credit hours**

The principles of statics. The study of the composition and resolution of forces, concurrent-coplanar forces, parallel forces, center of gravity, force couples, non-coplanar forces, and friction. Laboratory experiments to parallel and illustrate the classroom work.

MECHANICS (437)**4½ credit hours**

The principles of dynamics. Solution of problems involving motion, work, power, energy, momentum, impulse and impact. Lectures and laboratory work.

HEAT (438)**4½ credit hours**

The principles of temperature and thermometry. The study of thermal phenomena, expansion of solids, liquids, and gases, the three states of matter, steam calorimeters, conduction, convection, radiation, fuels, combustion, properties of air, and energy diagrams.

STRENGTH OF MATERIALS (439)**4½ credit hours**

The relationship between stress and strain; the calculation of stresses in machine parts, beams and columns; the use of shear and moment diagrams; the determination of moments of inertia and centers of gravity; and the analysis of the effect of loading on stress distribution. Tests on wood, concrete, plastics and metal on standard testing machines in accordance with the A. S. T. M. testing procedure.

METALS AND ALLOYS (440)**4½ credit hours**

The fundamentals of the physical metallurgy of ferrous and non-ferrous alloys. Investigation of the physical properties of metals. Hardness tests, thermal analysis and grain structure examination.

QUALITY CONTROL (441)**4½ credit hours**

The use of inspection methods to secure the control of quantity production of complex assemblies. The use of statistical principles in sampling, and the determination of variables and standard quality.

CHEMISTRY (4227), (4228)**9 credit hours**

A study of the elements, organic and inorganic compounds, formulas and equations, the properties of elements, gas laws, crystallization and electrolysis.

ELECTRICITY (4351)**4½ credit hours**

Electrical units, measuring instruments, circuits, magnetism and electro-magnetic induction; the fundamentals of light and sound; optics; measurement of light intensity; the wave motion theory; acoustics, and measurement of noise levels, absorptions of sound. Lectures and laboratory work.

ELECTRICITY (4352)**4½ credit hours**

The principles of electric motors, generators, and transformers and their performance, operation and control. Familiarity with the equipment to the extent that the student will be able to select and operate the proper electrical equipment.

ELECTRICITY (4353)**4½ credit hours**

Use of electronic devices in the control of mechanical equipment. The elements of electronics and the use of tubes in the electronic circuit. The application to rectifiers, timing circuits, motor speed controls, induction heating and welding.

MANAGEMENT (446)**3 credit hours**

The study of human relations in industry which includes a study of the individual and why he behaves as he does, group behavior and the reduction of destructive conflicts between groups. General case studies in which the human element is isolated and studied.

MANAGEMENT (447)**3 credit hours**

The methods, techniques and practices of management; the relationship of management and labor with respect to division of responsibility and direction of labor; the control of purchasing, inventory, production, quality, job standards, plant maintenance safety.

MEDICAL OFFICE ASSISTANT

Some of the busiest people today are doctors. In our health-conscious nation, private physicians are working to the limit of their time and physical resources. A similar situation exists in hospitals and clinics. Responsible assistants thoroughly trained in both office and laboratory skills are needed to perform some of the duties of these hardpressed men and women in the medical profession.

Here is a service career for the Medical Office Assistant. A young woman with the proper personal characteristics and semi-professional training may find employment in doctors' and dentists' offices, clinics, laboratories, in industrial medical departments, or with concerns manufacturing medical supplies.

Duties vary with the employer and the amount of assistance each requires. A Medical Office Assistant may act as receptionist, make appointments, keep records and accounts, take dictation, handle correspondence, prepare patients for examination, order medical supplies and perform laboratory tests.

In preparing for this career, a young woman needs the basic office skills and knowledges, an introduction to materia medica and anatomy, training in medical vocabulary and dictation, and clinical laboratory procedures. These constitute the major subjects of the curriculum.

CURRICULUM OUTLINE

Medical Office Assistant

FIRST YEAR

	<i>First Term</i>	<i>Credit Hours</i>
526	Typewriting	2½
530	Shorthand	5
5717	Mathematics	3
542	Anatomy	4
71	Communication Skills	3
76	Modern Society	3
514	Health	2
*0701	Mathematics	3
*0705	Modern Science.....	3

Second Term

527	Typewriting	2½
531	Shorthand	5
5718	Mathematics	3
543	Anatomy	3
5220	Chemistry	4½
72	Communication Skills	3
77	Economic Problems.	3
*0702	Mathematics	3
*0706	Modern Science.....	3

Third Term

528	Typewriting	2½
532	Shorthand	3
548	Clinical Laboratory.	3
5221	Chemistry	4½
552	Office Procedure....	2
544	Materia Medica	3
73	Communication Skills	3
78	Sociology	3

SECOND YEAR

	<i>First Term</i>	<i>Credit Hours</i>
533	Transcription	5
784	Accounting	3
545	Bacteriology	3
549	Clinical Laboratory.	4
547	Pediatrics	2
515	Health	2
†	Typewriting	

Second Term

534	Transcription	5
535	Office Practice.....	3
785	Accounting	3
550	Clinical Laboratory.	4
546	Bacteriology	3
5341	Physics	4½

Third Term

536	Office Practice.....	4
537	Transcription	3
74	Communication Skills	3
551	Clinical Laboratory.	3
710	Psychology	3
538	Business Law.....	3

* Alternate subjects to be taken by those who can pass achievement tests in 526, 527, 530, 531.

† Special course in speed typing on recommendation of instructor.

MEDICAL OFFICE ASSISTANT

TYPEWRITING (526), (527)

5 credit hours

Mastery of the keyboard by touch; operation and care of the typewriter; writing business letters; addressing envelopes; manuscript typing; development of speed.

TYPEWRITING (528)

2½ credit hours

Continuation of basic skill-building with emphasis on speed and advanced problems. Rough drafts, medical data, manuscripts, legal papers.

SHORTHAND (530), (531)

10 credit hours

Presentation of principles of the new simplified Gregg Shorthand; reading and writing in shorthand; development of dictation speed.

SHORTHAND (532)

3 credit hours

A thorough and continuing review of basic Gregg theory; a further drive for speed; some beginning at medical dictation.

TRANSCRIPTION (533)

5 credit hours

Development of skill in reading shorthand notes and turning out from them a mailable transcript on the typewriter.

TRANSCRIPTION (534), (537)

8 credit hours

Dictation of medical material to be transcribed on the typewriter. Further drives for speed at taking dictation under the same standards described in "Shorthand". The building of medical vocabulary which can be taken in shorthand and transcribed accurately on the typewriter. The use of medical dictionaries.

OFFICE PRACTICE (535), (536)

7 credit hours

Basic training in the operation of various types of adding machines and dictating equipment. Stencil, fluid, and gelatin process duplicating. Experience at alphabetic, numeric, subject, and geographic filing.

OFFICE PROCEDURE (552)**2 credit hours**

Some of the practical office procedures used in a physician's office, such as the correct use of the telephone, sterilization of instruments and gloves, the keeping and filing of patients' records, the general care of the office. Professional ethics.

MATHEMATICS (5717)**3 credit hours**

A review of the fundamental processes with emphasis on their use with common, decimal and complex fractions. Ratio, proportion and solution of simple equation problems. The Metric and Apothecaries systems of weights and measures. Methods of changing from one unit of measure to another. The use of common abbreviations with orders for medications. Ratio and proportion in making dosages from pure drugs, stock solutions or tablets.

MATHEMATICS (5718)**3 credit hours**

Development of speed and accuracy in the fundamental processes with emphasis on practical problems using mental rather than written computations. A study of partial payments, installment buying, collections, insurance, income and property taxes and financial statements in preparation for bookkeeping.

ACCOUNTING (784)**3 credit hours**

The science of record keeping from the basic definition of terms and the fundamental accounting equation through books of original entry, final entry, and the trial balance. Numerous practical problems based on each topic.

ACCOUNTING (785)**3 credit hours**

A continuation of Accounting 784—adjusting, closing the books, worksheet, bad debts, depreciation, obsolescence, general and subsidiary ledgers. Problems and set.

CHEMISTRY (5220), (5221)**9 credit hours**

The fundamental laws and theories of chemistry together with the properties and uses of the common elements, both metallic and non-metallic, and their compounds. Laboratory work illustrating the basic principles of chemistry to enable the student to examine the behavior of elements and compounds.

ANATOMY (542), (543)**7 credit hours**

A study of the structure and function of the body as an integrated whole. An overview of skeletal, muscular, circulatory, respiratory and digestive systems. Vocabulary building.

MATERIA MEDICA (544)**3 credit hours**

A study of the various classes of commonly used drugs and their effects on the human body. The administration of medicines and the uses of antiseptics and disinfectants.

BACTERIOLOGY (545), (546)**6 credit hours**

A study of the micro-organisms that cause disease in man, including a brief discussion of their size, shape, staining reactions and the manner in which they grow; micro-organisms that cause typhoid, tuberculosis, diphtheria and tetanus; the ways and means by which the human body combats the various infectious organisms.

PEDIATRICS (547)**2 credit hours**

Emphasis on the child as an individual in both health and disease, from the standpoint of his total well-being from birth to school age. An overview of the common diseases of childhood.

CLINICAL LABORATORY (548), (549), (550), (551)**14 credit hours**

A sequence of courses in the study and practice of clinical techniques employed in the doctor's offices and hospital laboratories. Included are urinalysis, hematology and blood chemistry. Some of the procedures covered: blood counts, hemoglobin determination, color index, blood sugar, cholesterol, and non-protein-nitrogen determination.

PHYSICS (5341)**4½ credit hours**

Designed to acquaint the student with the basic laws of electrical, light, and sound energies as they appear in everyday life.

BUSINESS LAW (538)***3 credit hours***

A basic understanding of our courts, legal procedures, and working knowledge of legal principles. Emphasis throughout the study on the fundamental law of Contracts and its applications to sales, bailments, negotiable instruments, agency, insurance and property.

TECHNICAL OFFICE ASSISTANT

Efficiency is the keynote of modern industry. In every department of the plant men, materials, machines and methods are geared to maintain a constant flow of products. Such a complex organization entails a vast amount of "paper" work—tabulating, filing, cataloging, ordering, correspondence. Office personnel with a technical background are scarce. A person with training in the basic business skills excellent though it may be often finds himself at a disadvantage when dealing with technical information and the language of the shop and laboratory.

The Technical Office Assistant course is open to both men and women and is designed to provide pre-employment training of a dual nature. One phase covers business subjects: typewriting, shorthand, (with emphasis on technical dictation), bookkeeping, business machines and office procedures. The other phase includes mathematics, drawing, chemistry, electricity and mechanics with shop and laboratory work to familiarize the student with the machines, processes and vocabulary of industry.

The young woman graduate may find the best opportunity as stenographer, technical secretary, research assistant, technical librarian or office machines supervisor. Young men may be employed as specifications writer, foreman's assistant, bookkeeper, technical writer, executive's secretary or information specialist.

CURRICULUM OUTLINE

Technical Office Assistant

FIRST YEAR

	<i>First Term</i>	<i>Credit Hours</i>
626	Typewriting	2½
630	Shorthand	5
6717	Mathematics	5
71	Communication Skills	3
76	Modern Society.....	3
6451	Shop	1
6422	Drawing	1
614	Health	2
*0701	Mathematics	3
*0705	Modern Science.....	3
** 679	Psychology	3

Second Term

627	Typewriting	2½
631	Shorthand	5
6718	Mathematics	3
72	Communication Skills	3
77	Economic Problems..	3
6452	Shop	1
6423	Drawing	1
*0702	Mathematics	3
*0706	Modern Science.....	3
** 660	Layout	4

Third Term

628	Typewriting	2½
632	Shorthand	3
6719	Mathematics	3
73	Communication Skills	3
78	Sociology	3
6225	Chemistry	4½
697	Merchandising	3
** 661	Salesmanship	3

SECOND YEAR

	<i>First Term</i>	<i>Credit Hours</i>
646	Transcription	7½
784	Accounting	3
6453	Physics	4½
6354	Physics	4½
615	Health	2
** 662	Payroll	3

Second Term

647	Transcription	3
635	Office Practice.....	6
785	Accounting	3
6355	Electronics	4½
6456	Strength of Materials	4½
643	Law	3
** 663	Advanced Typewriting	3

Third Term

648	Transcription	3
636	Office Practice.....	3
786	Accounting	3
74	Communication Skills	3
6457	Metals and Alloys...	4½
642	Organization and Management	3
6596	Advertising	3

* Alternate subjects to be taken by those who can pass achievement test in 626, 627, 630, 631.

** Courses required for non-shorthand students.

TECHNICAL OFFICE ASSISTANT

TYPEWRITING (626), (627)

5 credit hours

A beginning sequence in touch typewriting to make the operator accurate, rhythmical and moderately rapid in the operation of the standard makes of office typewriter. Care of the machine, operation of the various parts. Business letters, simple tabulation, and the building of typewriting speed based on ten-minute tests.

TYPEWRITING (628)

2½ credit hours

Continuation of basic skill-building with emphasis on speed and advanced problems. Among the topics: rough drafts, technical data such as specifications, manuscripts, legal papers.

SHORTHAND (630)

5 credit hours

A beginning course in the Gregg system, simplified, taught by the functional method. Basic principles and theory, some dictation being given at slow speeds.

SHORTHAND (631)

5 credit hours

A thorough review, with continuing drill, on all principles and theory. Training in speed-building, spelling, English grammar and punctuation, with dictation from various fields of business and industry.

SHORTHAND (632)

3 credit hours

More emphasis on the building of transcription skill at the typewriter. Further drill for dictation speed. Some beginnings at technical dictation.

TRANSCRIPTION (646)

7½ credit hours

Development of skill in reading shorthand notes and turning out from them a mailable transcript on the typewriter.

TRANSCRIPTION (647)

3 credit hours

Dictation of technical material to be transcribed on the typewriter. Further drives for speed of dictation. Building of the technical vocabulary found in Chemical, Electrical, Mechanical, Civil Engineering. Use of specifications, contracts and letters from these fields and the building construction industry. Use of standard secretarial references and dictionaries to check the accuracy of spelling and word meanings.

OFFICE PRACTICE (635), (636)**9 credit hours**

Basic training in the operation of dictating machines, four types of adding-calculating machines, duplicating processes. Work in different departments of a hypothetical manufacturing concern, rotating through Mailing, Stenographic, Filing, Statistical, Library, Advertising, Purchasing, Credit, Billing, Legal, Treasurer and Sales Manager. Emphasis on proper attire, desirable work attitudes, business ethics.

MATHEMATICS (6717)**5 credit hours**

A review of the fundamental processes including short methods and checking. The use of signed numbers and general numbers in the fundamental processes in algebra. Factoring and the use of fractions in formulas. A study of regular and fractional exponents. Radicals and their use. The slide rule in multiplication, division, powers and roots.

MATHEMATICS (6718)**3 credit hours**

The unknown in equations and formulas including simultaneous and quadratic equations. Graphic representation and the solution of simple and simultaneous equations with graphs. The measurement of lines and angles with triangles and trigonometric ratios. The use of tables including interpolation. Functions of angles in the 2nd, 3rd, and 4th quadrants. Solution of applied problems.

MATHEMATICS (6719)**3 credit hours**

Exercises to develop speed and accuracy in the fundamental processes with emphasis on practical problems. Common fractions, decimal fractions, and aliquot parts used in percentage, profit and loss, interest, cash discount, trade discount, bank discount and marked price. A study of partial payments, installment buying, collections, insurance, stocks and bonds, income and property taxes and financial statements in preparation for bookkeeping.

ACCOUNTING (784)**3 credit hours**

The science of record keeping from the basic definition of terms and the fundamental accounting equation through books of original entry, final entry, and the trial balance. Numerous practical problems based on each topic.

ACCOUNTING (785)**3 credit hours**

A continuation of Accounting 784—adjusting, closing the books, worksheet, bad debts, depreciation, obsolescence, general and subsidiary ledgers. Problems and set.

ACCOUNTING (786)**3 credit hours**

Columnar journals, partnerships, corporations, voucher system, analysis and interpretation of financial statements. Intensive work on a practice set of books taken from the field.

DRAWING (6422)**1 credit hour**

Shape description, orthographic projection, pictorial representation including oblique and isometric sketching and lettering.

DRAWING (6423)**1 credit hour**

Use of drawing instruments, instrumental drawings, graphic solutions, sectioning, auxiliary views, fastenings and dimensioning, duplication processes.

CHEMISTRY (6225)**4½ credit hours**

The study of the basic laws of chemistry and the most common elements and compounds. The uses of these common elements and compounds and their applications in industry and everyday life. The structure of matter, electrolytic reactions, corrosion, fuels, plastics, and foods. Lectures and laboratory.

PHYSICS (6354)**4½ credit hours**

Fundamental principles and laws of electrical circuits, transmission of power, energy consumption. Practice in connecting and operating machinery and control apparatus. Principles of illumination and light measurements.

PHYSICS (6453)**4½ credit hours**

Basic principles of mechanics illustrated by simple machines with emphasis on translatory and rotary motion, on work, energy and power, principles of temperature and thermometry, the study of thermal phenomena, and the application to the heat engine.

ELECTRONICS (6355)**4½ credit hours**

The characteristics and performance of vacuum tubes, of gas-content tubes and of photoelectric tubes. Tube rectifiers, and rectifier circuits. Laboratory demonstrations to give an appreciation of the range of electrical control.

SHOP (6451)**1 credit hour**

A study of machines commonly found in a metal processing shop. A discussion of the function of the various parts of the machine. Practice in processing metals, leading to an acquaintance with technical and shop terms and an appreciation of what is done in machine shops.

SHOP (6452)**1 credit hour**

Observation and discussion of the materials used in industry to produce machines, appliances, containers, etc. Demonstration and experiences in fashioning some of the common materials into usable products.

STRENGTH OF MATERIALS (6456)**4½ credit hours**

An elementary consideration of principles. Tension and compression, riveted and welded connections, beam design, beam deflections, the design of steel and timber columns. Problems taken from the fields of engineering and design, and incorporating the fundamental principles of both mechanics and strength of materials. Lectures and laboratory work.

METALS AND ALLOYS (6457)**4½ credit hours**

A survey of metallurgy and the processing of metals. Includes the refining of metals, mechanical properties of materials, the fabrication, grain structure, and heat treatment of steel. Cleaning and coating of metals, welding and metal testing.

LAW (643)**3 credit hours**

A basic understanding of our courts, legal procedures, and working knowledge of legal principles. Emphasis throughout the study on the fundamental law of contracts and its applications to sales, bailments, negotiable instruments, agency insurance and property.

ORGANIZATION AND MANAGEMENT (642) 3 credit hours

A survey course in the field of industrial organization. Human relations in industry. Plant organization, and personnel management.

MATHEMATICS (0701), (0702) 6 credit hours

A continuation of the use of the fundamental processes as they apply to factoring, fractional equations, ratio, proportion, functions, graphs. Logarithms, progressions, the binomial theorem.

MODERN SCIENCE (0705), (0706) 6 credit hours

A survey of basic science through lecture and demonstration. Matter, its forms and changes. Energy, its forms and uses. Machines which we use. Introduction to meteorology, astronomy.

PSYCHOLOGY (679) 3 credit hours

Designed to give the students insight into human nature which will prepare them for acceptable service in the professions. Personality development, techniques involved in dealing with people, intelligence, learning and leadership.

LAYOUT (660) 4 credit hours

Sketching and reading of plot plans. Basic training in the use of symbols and nomenclature relative to this work.

MERCHANDISING (697) 3 credit hours

A study of the procedures both of buying and selling merchandise, control and pricing of stock, governmental regulation of retailing.

SALESMANSHIP (661) 3 credit hours

A basic course in the principles used by successful sales personnel. Human psychology, personality and cultural background of the sales person.

PAYROLL (662)**3 credit hours**

A comprehensive coverage of the legislation behind and practical application of accounting for Social Security and Tax withholding, from the standpoint of the employer.

ADVANCED TYPEWRITING (663)**3 credit hours**

Development of higher level skill in the typing of letters, unarranged tabulations, justified margins. Preparation of copy for duplicating processes.

ADVERTISING (6596)**3 credit hours**

A comprehensive coverage of all phases of this field. Different types of media, their cost and use. Customer appeals. Preparation of copy and layout. Display.

GRADUATES

Class of 1949

Richard D. Appley.... <i>Fish's Eddy</i>	Nicholas Hriciga <i>Binghamton</i>
Charles E. Aswad..... <i>Binghamton</i>	Harold R. Hutchinson
Andrew C. Barilla..... <i>Syracuse</i>	<i>Newark Valley</i>
John A. Basmajian.... <i>Binghamton</i>	Eugene Johnson <i>Johnson City</i>
Edgar B. Bean..... <i>Homer</i>	Eugene J. Kenney..... <i>Vestal</i>
Jesse V. Beebe..... <i>Binghamton</i>	Anne M. King..... <i>Johnson City</i>
Audrey R. Bellinger.. <i>Johnson City</i>	Eugene P. Koloski.... <i>Binghamton</i>
Alex Belokur..... <i>Owego</i>	Joseph J. Kopal..... <i>Binghamton</i>
John G. Bickos..... <i>Sidney</i>	Nick Korba <i>Johnson City</i>
Katherine F. Bixby..... <i>Nichols</i>	Richard P. Krager.... <i>Glen Castle</i>
Richard B. Booth..... <i>Binghamton</i>	Michael J. Krupa..... <i>Binghamton</i>
Frank L. Brucknak..... <i>Candor</i>	Alfred R. Kulikowski.. <i>Johnson City</i>
Ann C. Bucher..... <i>Johnson City</i>	Vincent D. Lawrence.... <i>Kingston</i>
Donald A. Buffington..... <i>Vestal</i>	Virginia A. LeClaire... <i>Penn Yan</i>
David H. Burritt..... <i>Geneva</i>	John W. Lloyd..... <i>Endwell</i>
Norris F. Carlson..... <i>Binghamton</i>	Jack J. Longo..... <i>Endicott</i>
Emma F. Carrere..... <i>Sidney</i>	Richard K. Lovelee..... <i>Dunkirk</i>
Fred E. Cederborg..... <i>Endicott</i>	Thomas D. MacBlane.... <i>Elmira</i>
William E. Chamberlin.. <i>Unadilla</i>	Joseph M. Machata... <i>Binghamton</i>
Paul W. Chebiniak.... <i>Binghamton</i>	John E. Martyak..... <i>Binghamton</i>
Francis J. Conrad.... <i>Binghamton</i>	Gladys L. McDonald.. <i>Johnson City</i>
William G. Conrad.. <i>Whitney Point</i>	Dean W. McGowan..... <i>Oneonta</i>
Thomas S. Cooper.... <i>Johnson City</i>	Richard C. Mehlenbacher.. <i>Cohocton</i>
Wilbur T. Crandall..... <i>Sidney</i>	John J. Merges..... <i>Binghamton</i>
Bernard E. Criscenzo	Patricia L. Michael... <i>Binghamton</i>
<i>Hawthorne, N. J.</i>	Anthony Michalak ... <i>Johnson City</i>
Fred J. R. Croft..... <i>Glen Aubrey</i>	George W. Molessa.... <i>Binghamton</i>
Joseph C. Curatolo..... <i>Endicott</i>	John A. Monson..... <i>Edmeston</i>
Carlton C. Dalrymple.... <i>Windsor</i>	John L. Nichols..... <i>Binghamton</i>
L. Philip Dann..... <i>Addison</i>	Phyllis A. Nichols..... <i>Vestal</i>
Albert J. DeRitis..... <i>Binghamton</i>	John P. O'Brien..... <i>Fulton</i>
William Dervay <i>Binghamton</i>	Shirley M. Olmsted..... <i>Waverly</i>
Frances E. DeWolf..... <i>Syracuse</i>	Ronald E. Overfield.. <i>Johnson City</i>
Earl E. Doney..... <i>Waverly</i>	Ross R. Peduto..... <i>Binghamton</i>
Robert S. Donnelly.... <i>Interlaken</i>	Peter Petrigala <i>Binghamton</i>
Ellen K. Donovan..... <i>Binghamton</i>	Joseph G. Pokorak, Jr.
Barbara M. Dougherty.. <i>Binghamton</i>	<i>Johnson City</i>
Lee C. Durland..... <i>Cadosia</i>	Steven Pyluck <i>Endicott</i>
Maryanne Dwyer <i>Callicoon</i>	Alberta M. Rayner..... <i>Waverly</i>
J. Elaine Elwood..... <i>Rockdale</i>	Elwyn J. Richards... <i>Johnson City</i>
Phyllis J. Emerson..... <i>Waverly</i>	Edward S. Richion..... <i>Endicott</i>
Rhoda T. Fish..... <i>Binghamton</i>	John F. Romanelli..... <i>Utica</i>
John Fletcher <i>Binghamton</i>	Howard S. Rothe..... <i>Binghamton</i>
Nicholas H. Gabriel.... <i>Cortland</i>	Jean E. Rougeux..... <i>Binghamton</i>
Joseph J. Gierlach... <i>Johnson City</i>	Prudence A. Ryan..... <i>Homer</i>
Shirley J. Goltry..... <i>Apalachin</i>	Andrew L. Santalucia.. <i>Kirkwood</i>
Dolores M. Gorman	Salvatore F. Saraceno... <i>Endicott</i>
<i>Chenango Forks</i>	Charles Savas <i>Endicott</i>
John M. Hamarich..... <i>Endicott</i>	Samuel A. Schroeder.. <i>Binghamton</i>
Margaret C. Hamilton.. <i>Binghamton</i>	Mercena E. Schuyler.. <i>Binghamton</i>
Donald K. Heil..... <i>Middletown</i>	Albert Siedlarczyk ... <i>Johnson City</i>
Charles W. Hendrickson	Howard A. Simmons..... <i>Endicott</i>
<i>Binghamton</i>	Andrew Smetana ... <i>Johnson City</i>
Harry T. Hodges..... <i>Auburn</i>	Silas J. Smith..... <i>Fulton</i>
Bruce W. Hopkins..... <i>Moravia</i>	Frank J. Snupik..... <i>Binghamton</i>
Harriett L. Houghtaling	Ralph E. Stamps..... <i>Vestal</i>
<i>Binghamton</i>	Victor O. Stead..... <i>Bainbridge</i>

Richard A. Steigerwald
Johnson City
 Robert L. Steigerwald
Johnson City
 John Stimik*Binghamton*
 George E. Strockbine...*Binghamton*
 Joseph J. Struck.....*Johnson City*
 Herbert M. Swan.....*Vestal*
 Bernard F. Szymaniak...*Binghamton*
 John J. Talkiewicz...*Johnson City*
 Rush P. Taylor.....*Binghamton*
 Gorton E. Tinklepaugh
Harpursville
 Albert B. Tulla.....*Interlaken*
 Ralph M. Tyler.....*Binghamton*
 Wesley B. Tyler.....*Westford*
 James E. Updyke.....*Binghamton*
 Peter J. Vallese.....*Endicott*

John R. Van Gorder...*Newark Valley*
 Robert M. Vetter.....*Binghamton*
 Allison H. Vincent.....*Endicott*
 Joseph D. Vitale.....*Endicott*
 William Vovchik*Endicott*
 Warren T. Wagner...*Binghamton*
 Bruce E. Watson.....*Binghamton*
 Gerald B. Webster...*Binghamton*
 Norman D. Wells.....*Elmira*
 Ruth M. Weymouth...*Gloversville*
 Rhoda M. White
Cornwall-on-Hudson
 Elizabeth G. Whittemore...*Vestal*
 Dale W. Yetter....*Newark Valley*
 Lawrence R. Yetter...*Newark Valley*
 Michael Yonko*Johnson City*
 Walter Zablotzky*Vestal*
 Leon M. Ziac.....*Binghamton*

GRADUATES

Class of 1950

Gerald L. Arffa.....*Syracuse*
 Richard P. Armstrong...*Binghamton*
 Richard A. Auyer.....*Binghamton*
 Raymond E. Balch...*Johnson City*
 Joan E. Beecher.....*Killawog*
 Richard C. Berry.....*Marcellus*
 Elinor M. Biedekapp.....*Walton*
 Franc J. Bixby.....*Nichols*
 Marilyn L. Bostwick...*Binghamton*
 Laura G. Boyd...*Franklin Depot*
 Robert W. Brougham.....*Elmira*
 Gordon R. Brown.....*Norwich*
 Harold E. Brown.....*Norwich*
 Alan B. Browne.....*Binghamton*
 Milton Bublinec.....*Johnson City*
 Cathaleen M. Burns...*Binghamton*
 Emanuel J. Callea...*Binghamton*
 Elwood C. Campbell.....*Vestal*
 George L. Capwell...*Binghamton*
 B. Dalila Chapman...*Binghamton*
 Harry Charnetsky, Jr...*Binghamton*
 Louis S. Chickos.....*Buffalo*
 Elmer J. Ciampichini...*Binghamton*
 Robert W. Clair.....*Pine Valley*
 Leonard C. Clarke...*Binghamton*
 Stanley D. Clinton.....*Greene*
 Frank R. Colgan.....*Binghamton*
 Gene C. Dimmick.....*Waverly*
 Betty L. Downey.....*Homer*
 Elmer P. Dozier.....*Maybrook*
 Margery E. Dozier.....*Maybrook*
 Mabel D. Dubben.....*Cooperstown*
 Louis W. Ducote.....*Binghamton*
 Rita F. Duffy.....*Binghamton*
 Beverly Dunham.....*Willet*
 Stanley R. English.....*Homer*
 Joseph Fleming.....*Marathon*
 Rose M. Fuimarello...*Poughkeepsie*
 Barbara J. Gilbert...*Binghamton*

Louise E. Grabowski...*Binghamton*
 Pauline C. Grace.....*Johnson City*
 James R. Greatsinger...*Pine City*
 Daniel Green.....*Johnson City*
 Charles C. Gregory...*Johnson City*
 Clifford W. Hager.....*Elmira*
 M. Marjorie Harrison...*Binghamton*
 Walter C. Hein.....*Conklin*
 Iris Hellewell*Ithaca*
 Walter F. Herzog.....*Sidney*
 Robert A. Hock.....*Johnson City*
 David E. Hoefler.....*Ithaca*
 George J. Hoeflein, Jr.
Johnson City
 Julian R. Johnson.....*Binghamton*
 Clifford J. King.....*Burdett*
 Mary Jayne C. Kirkland
Johnson City
 Michael Kolba*Binghamton*
 Peter Kostyun*Endicott*
 George S. Kotrch.....*Endicott*
 Eugene F. Kovarick.....*Endicott*
 Frank J. Kovarick.....*Endicott*
 Neil N. Krewson.....*Johnson City*
 Kenneth V. F. LaBarre
Johnson City
 Raymond S. Landon...*Johnson City*
 Leonard A. Laskowski
Johnson City
 Richard G. Latham...*Binghamton*
 Jack J. LeBlanc.....*Binghamton*
 Arthur M. Lipkin.....*Albany*
 Chester F. Lobacz.....*Johnson City*
 Burton A. Lozier.....*Vestal*
 Dorothy R. Lutke...*Johnson City*
 Anne C. Macinski...*Johnson City*
 Jeanne M. Marino.....*Hancock*
 Josephine Matolka.....*Endicott*
 Claudine M. Matych...*Binghamton*

Patricia D. Mayhood....*Pine City*
 John E. McTamney, Jr....*Owego*
 Harry D. Mersereau, Jr....*Vestal*
 John E. Mills.....*Binghamton*
 Robert C. Mitchell....*Johnson City*
 George G. Morgan.....*Owego*
 Edward F. Moryl....*Johnson City*
 Donald H. Paul.....*Elmira*
 Michael L. Pestillo.....*Solvay*
 Sterling W. Pierson....*Binghamton*
 Stanley J. Polich.....*Worcester*
 William H. Pratt.....*Binghamton*
 Rodney C. Pratt.....*Binghamton*
 Phillip A. Ragard....*Binghamton*
 Donald M. Reeve.....*Sayre*
 Robert L. Reid.....*Elmira*
 Martha J. Russell....*Colliersville*
 George R. Sackett, Jr..*East Jewett*
 Sally J. Seltzer.....*Binghamton*
 Charles O. Shaw.....*Oneonta*
 Thomas J. Shipko....*Binghamton*

Louise M. Slodki.....*Binghamton*
 Duane N. Smith.....*Binghamton*
 Shirley L. Snow....*Memphis, N. Y.*
 Robert L. Spangenberg...*Endicott*
 Wesley A. Stockett....*Binghamton*
 Rudolph O. Strunk....*Binghamton*
 Darwin O. Taft.....*Binghamton*
 Douglas E. Tiffany...*Binghamton*
 Richard P. Vanek....*Binghamton*
 Beverly J. Van Woert...*Oneonta*
 Anthony F. Villante.....*Greene*
 Robert L. Wall.....*Binghamton*
 Dolores A. Whitaker....*Endicott*
 Roy M. Whiting.....*Endicott*
 Kenneth L. Wilbur.....*Lisle*
 Ralph G. Wilcox....*Whitney Point*
 Thomas W. Williams....*Pine City*
 William E. Winters...*Johnson City*
 Charles D. Wolfe.....*Owego*
 Warren J. Wooden....*Binghamton*
 Bruno A. Zaccaria.....*Oneonta*

GRADUATES

Class of 1951

Charles E. Angel....*Whitney Point*
 Louise E. Aton.....*Binghamton*
 Clifton W. Bailey....*Binghamton*
 Arthur W. Banfield...*Johnson City*
 John E. Battaglini.....*Endicott*
 Marcell A. Boulous....*Binghamton*
 Harold K. Boyce.....*Port Jervis*
 Jacqueline J. Brady...*Binghamton*
 Meredith Brill, Jr.....*Ithaca*
 William L. Burgin....*Margaretville*
 Donald Burlew*Binghamton*
 Eugene F. Burns.....*Endicott*
 Thomas J. Carlton....*Endicott*
 Donald R. Carpenter...*Syracuse*
 John M. Cherevko.....*Endicott*
 Richard W. Christman, Jr..*Afton*
 Benjamin M. Clarke, Jr.

Binghamton

J. Raymond Close.....*Elmira*
 Newton H. Combs...*Fleischmanns*
 Dane J. Cox.....*Greene*
 W. Gordon Crabb....*Johnson City*
 William A. Crowley

Elmira Heights

William J. Danek....*Johnson City*
 Albert H. Davies.....*Vestal*
 Edward C. Davis.....*Endicott*
 Joan C. Day.....*Weedsport*
 Donald L. Decker....*Binghamton*
 Sherman L. Decker, Jr..*Oneonta*
 Frank E. Delanoy....*Johnson City*
 Herbert L. Dellapenta

Johnson City

Paulyne M. Denson.....*Elmira*
 J. Charles DeVente...*Johnson City*
 Ignatius A. DiBello.....*Oneonta*

Howard J. Dingman.....*Sidney*
 David J. Dopp.....*Johnson City*
 Jane J. Duffy.....*Binghamton*
 Gertrude C. Dunn....*Montgomery*
 Emerson E. Ebert.....*Callicoon*
 W. David Edwards.....*Delhi*
 Rose H. Fanning.....*Cortland*
 Florence M. Fennell....*Dundee*
 Maxim W. Fenson....*Johnson City*
 Charles J. Flynn.....*Binghamton*
 Durwood P. Frazier....*Endicott*
 Boyd A. Frost.....*Johnson City*
 Myra J. Gage.....*Johnson City*
 George W. Gehen....*Johnson City*
 Leonard V. Glosenger...*Honesdale*
 Pierre J. Greene, Jr..*Johnson City*
 Shirley L. Groce.....*Addison*
 Charles C. Hamilton...*Port Jervis*
 Jean L. Hastings....*Binghamton*
 Richard J. Hill.....*Binghamton*
 Agnes E. Hogan.....*Binghamton*
 Clarence H. Holdren....*Vestal*
 Frank G. Hudda.....*Binghamton*
 Mary Ann C. Hudy...*Binghamton*
 Donald K. Hurst.....*Freeville*
 Richard L. Jones.....*Ithaca*
 Joseph R. Kabanek...*Binghamton*
 Bernard V. Kamp....*Binghamton*
 Charles R. Kenyon...*Corbettsville*
 Millard S. Kidder....*Binghamton*
 Robert D. King.....*Johnson City*
 Geraldine B. Kinney...*Port Crane*
 Paul K. Kintner, Jr.....*Vestal*
 Steven W. Kondratick...*Auburn*
 Paul G. Krch.....*Binghamton*
 Rose Kulik*Binghamton*

Anna M. Kurzweil.....*Callicoon*
Michael A. LaCava.....*Norwich*
Robert B. Lantz.....*Elmira*
Alan G. Libglid.....*Rochester*
Lowell H. Linderman.....*Johnson City*
Ethel A. Livingston.....*Mechanicville*
Mary Jane A. Lounsbery

Binghamton

Richard M. Lowe....*Trumansburg*
Donald E. Lozier.....*Vestal*
John C. Lyles.....*Binghamton*
Emily F. McCumber.....*Margaretville*
Robert A. Meeker....*Johnson City*
Edward J. Menard....*Johnson City*
Helen Mieczowski*Johnson City*
Jannette A. Miles....*Binghamton*
Robert F. Miller.....*West Albany*
Shirley A. Miner.....*Weedsport*
Douglas J. Monsour....*Syracuse*
Stanley A. Mosier....*Binghamton*
Helen L. Myers.....*Bainbridge*
Rodger L. Myers.....*Binghamton*
Toy D. North*Mileses*
Robert G. O'Connor.....*Oneonta*
Richard L. Parker.....*Marathon*
Allyn B. Pearsall.....*Interlaken*
Donald C. Peters.....*Savona*
Joseph J. Petras, Jr.....*Vestal*
Victor M. Petrillo....*Johnson City*
Charles F. Pierce.....*Ithaca*
Kerwin C. Playfoot....*Horseheads*
James Postlethwait....*Fayetteville*

R. Kay Proper.....*Downsville*
Robert T. Pulse.....*Endicott*
Patricia J. Richards.....*Conklin*
Robert C. Robinson.....*Afton*
Russell K. Rose.....*Johnson City*
Robert E. Ross.....*Sidney*
Nicholas A. Rossello.....*Endicott*
Theodore L. Rounds.....*Vestal*
Earl J. Rufibach.....*Johnson City*
Margot A. Rupp.....*Johnson City*
Harold F. Sadler, Jr.....*Johnson City*
George C. Schanz.....*Binghamton*
John L. Sejersen.....*Bainbridge*
Joyce A. Sheehan.....*Binghamton*
William A. Shramek.....*Binghamton*
James R. Simmons....*Salamanca*
Joan Smith*Binghamton*
Bernard F. Smithka.....*Binghamton*
Janet A. Spencer.....*Oneonta*
Felix A. Stacconi.....*Endicott*
Robert H. Strack.....*McGraw*
Donald H. Stuart.....*Johnson City*
Russell L. Swartz.....*Kirkwood*
Ellen M. Thompson.....*Oneonta*
Edward J. Tucker.....*Oxford*
Harry F. Wagner....*Binghamton*
Helen A. Walrath.....*Ithaca*
Phyllis Weeks*Afton*
Alan B. White.....*Owego*
Donald L. Wood.....*Freeville*
James W. Wood.....*Nineveh*
Daniel M. Yasich.....*Johnson City*

SENIORS

Class of 1952

Christine V. Adriance.....*Addison*
Roger M. Alderman.....*Painted Post*
Royce B. Allen.....*Binghamton*
Donald V. Andrus.....*Binghamton*
R. Danton Avery.....*Johnson City*
William Babcock*Johnson City*
Mary L. Barney.....*Milford*
John D. Bauer.....*Kenmore*
Donald Baycura*Binghamton*
Virginia G. Becker.....*Hornell*
Ruth E. Best.....*Tioga Center*
Edwin S. Black.....*Binghamton*
Albert N. Blazicek.....*Johnson City*
Charles T. Borsavage.....*Binghamton*
Shirley E. Bowen.....*Roseboom*
William A. Bradford.....*Ithaca*
James H. Bramley.....*Union Grove*
Joel W. Bravo.....*Binghamton*
Lowell H. Brigham.....*Johnson City*
Dennis A. Brown.....*Binghamton*
Floyd C. Brown.....*Whitney Point*
Kennard W. Brown, Jr.....*Upper Lisle*
Dominick J. Buongiorno.....*Albany*
George R. Burkman.....*Binghamton*

Dean A. Burton.....	<i>Whitney Point</i>
Joseph J. Callea.....	<i>Auburn</i>
Nancy J. Camin.....	<i>Owego</i>
Louis J. Cane.....	<i>Endicott</i>
A. Dennis Champoux.....	<i>Binghamton</i>
Betty A. Cheer.....	<i>Endicott</i>
Robert J. Clark.....	<i>Vestal</i>
Helen E. Coburn.....	<i>Perry</i>
James S. Collins.....	<i>Binghamton</i>
James J. Corcoran.....	<i>Binghamton</i>
Donald S. Covert.....	<i>Endicott</i>
Bruce T. Cunningham.....	<i>Canastota</i>
Sylvia A. DeCrescente.....	<i>McVile</i>
Willis H. Deiss.....	<i>Castle Creek</i>
John A. Delaney.....	<i>Olean</i>
Raymond L. Denney.....	<i>Binghamton</i>
Joseph F. Dodd.....	<i>Oceanside</i>
Louise J. Doig.....	<i>Downsville</i>
Duane M. Drum.....	<i>Vestal</i>
Russell E. Dyer.....	<i>Binghamton</i>
Robert H. Ewart.....	<i>Kenmore</i>
DeVer C. Finch.....	<i>Greene</i>
Walter R. Fowler.....	<i>Carbondale</i>
Gerald L. Fuller.....	<i>Vestal</i>
Edda N. Gallucci.....	<i>Cortland</i>
Ralph A. Gardner.....	<i>Newark Valley</i>
Robert L. Garrison.....	<i>Bainbridge</i>
Lucile M. Gehrke.....	<i>Sidney Center</i>
Jacob Goldstein.....	<i>Binghamton</i>
Haig Gopoian.....	<i>Binghamton</i>
Victor E. Hake.....	<i>Cochection</i>
Florence L. Hall.....	<i>Penn Yan</i>
Charles J. Haltiner.....	<i>Penn Yan</i>
Jack H. Hanney.....	<i>Port Crane</i>
Donna J. Harrison.....	<i>Binghamton</i>
Walter I. Hassett.....	<i>Binghamton</i>
Marjorie L. Hayward.....	<i>Endicott</i>
William J. Heis.....	<i>Johnson City</i>
Edward Hirko.....	<i>Binghamton</i>
Darwin H. Holben.....	<i>Allentown</i>
Gerald E. Jenkins.....	<i>Johnson City</i>
Betty L. Johnston.....	<i>Owego</i>
Barbara A. Jones.....	<i>Whitesboro</i>
Robert E. Jones.....	<i>Binghamton</i>
William M. Kerr.....	<i>Binghamton</i>
Elizabeth L. Kilmer.....	<i>Binghamton</i>
Laura J. King.....	<i>Binghamton</i>
Francis T. Klindt.....	<i>Morris</i>
Mirone R. Klysh.....	<i>Johnson City</i>
Gordon A. Knapp.....	<i>Afton</i>
Philip Knox.....	<i>Binghamton</i>
Ernest P. Kollar.....	<i>Endicott</i>
John R. Koltz.....	<i>Binghamton</i>
Thomas R. Lannon.....	<i>Binghamton</i>
Joseph Lauricella.....	<i>Endicott</i>
Mary Belle LeRoy.....	<i>Greene</i>
Anthony Lupo.....	<i>Endicott</i>
Paul J. Mahoney.....	<i>Kirkwood</i>
Joseph E. Martone.....	<i>Binghamton</i>
Robert E. Mee.....	<i>Binghamton</i>
Joseph A. Menzel.....	<i>Deposit</i>
Frank S. Mistretta.....	<i>Endicott</i>
Carolyn F. Motyka.....	<i>Buffalo</i>

George F. Mulkins.....	Oneonta
Joanne E. Mursch.....	Marcy
Mary M. Myette.....	Johnson City
Stephen Nagle.....	Endicott
Joseph C. Nelson.....	Chenango Forks
R. Page Norton.....	Windsor
Otis L. O'Brien.....	South New Berlin
Catherine E. O'Hern.....	Binghamton
James S. Ondrako.....	Binghamton
John A. Pavlik.....	Binghamton
Donald L. Peabody.....	Endicott
Clinton J. Peake.....	Long Eddy
Donald L. Pease.....	Cobleskill
Carl A. Piperato.....	Wallkill
Michael L. Popp.....	Binghamton
Reginald E. Porter.....	New Berlin
Marion E. Poyer.....	Ithaca
Joseph P. Promiscuo.....	Albany
Carl W. Roberts.....	Binghamton
Joyce M. Roseboom.....	Milford
Jean M. Ross.....	Schenevus
Kenneth C. Ross.....	Binghamton
Gerald E. Rothwell.....	Elmira
Andrew R. Salvemini.....	Binghamton
Ann N. Sawyer.....	Sherburne
Marjorie Schmidt.....	Upper Lisle
Harry F. Schreck.....	Troy
Beverly A. Shiner.....	Deposit
Rose E. Simmons.....	Lockwood
Burt E. Slater.....	Oxford
Richard M. Slater.....	Claryville
Helen M. Smith.....	Binghamton
Helen A. Squire.....	Sauguit
Ray W. Stanton.....	Vestal
Lawrence W. Stiles.....	Bainbridge
Harry E. Taylor.....	Binghamton
Mary M. Teed.....	Morris
Frances C. Teemsmas.....	Johnson City
John W. Thiesen.....	Kenmore
Glenn O. Tiffany.....	Oneonta
Elsie M. Turner.....	Davenport
H. Warren VanKuren.....	Castle Creek
Lynn D. Vermilyea.....	Bedell
R. Duane Vosburg.....	Binghamton
Robert L. Walden.....	Oxford
Walter C. Warren.....	Albany
Robert L. Way.....	Johnson City
Robert I. Weintraub.....	Binghamton
James L. Wheeler.....	Elmira
Dolores B. Wolfer.....	Binghamton
Theodore R. Woolsey.....	Harriman

CALENDAR

FALL TERM—1952

Sept. 8	8:00 A. M.	Freshman Registration
Sept. 9	8:00 A. M.	Senior Registration
Sept. 10	8:00 A. M.	Classes Begin
Nov. 25	5:00 P. M.	Fall Term Ends

WINTER TERM—1952-53

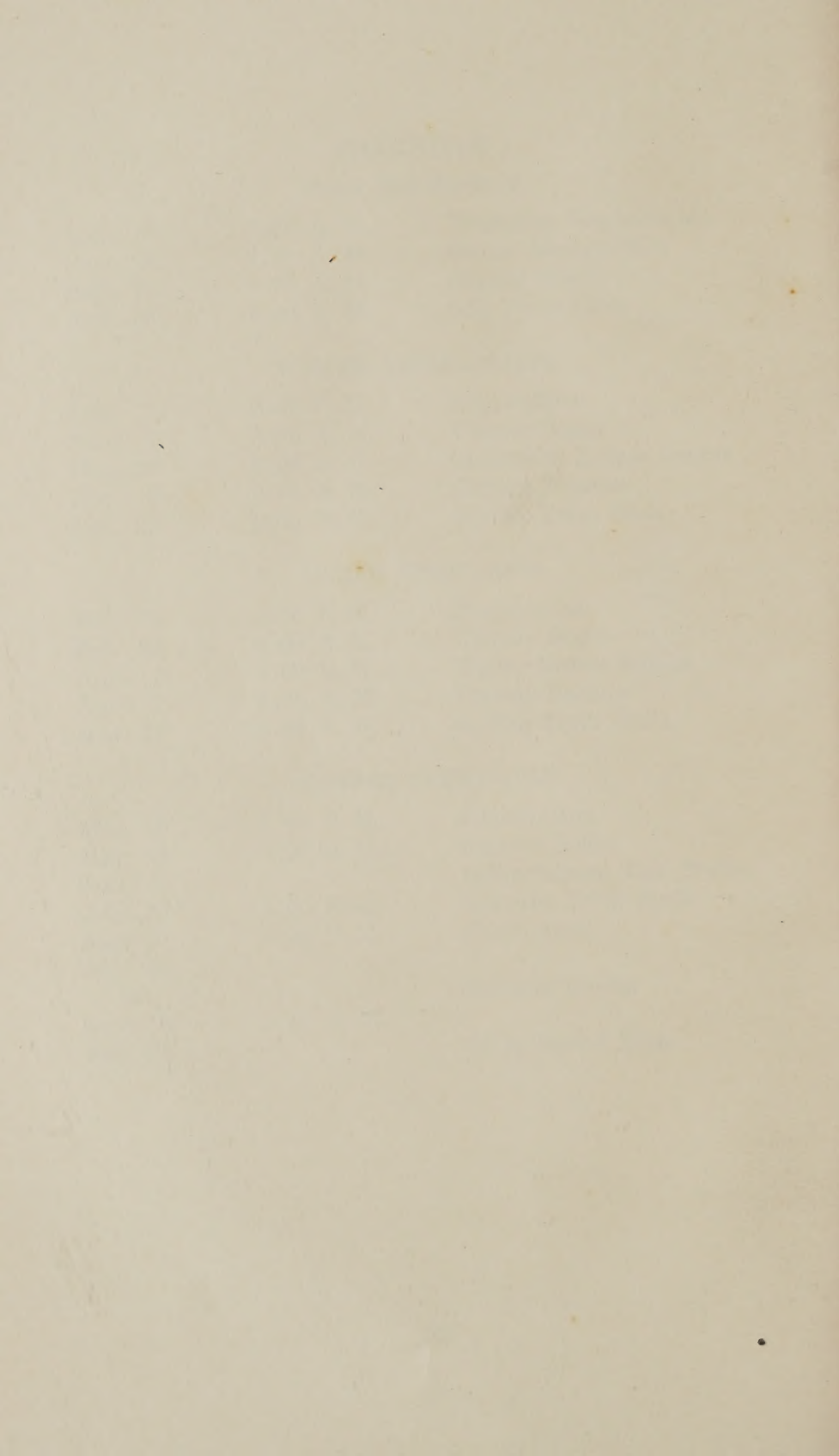
Dec. 1	2:00 P. M.	Registration
Dec. 2	8:00 A. M.	Classes Begin
Dec. 23	5:00 P. M.	Christmas Recess Begins
Jan. 5	8:00 A. M.	Classes Resume
Feb. 20	5:00 P. M.	Winter Term Ends

SPRING TERM—1953

Feb. 23	2:00 P. M.	Registration
Feb. 24	8:00 A. M.	Classes Begin
April 2	5:00 P. M.	Easter Recess Begins
April 7	8:00 A. M.	Classes Resume
May 15	5:00 P. M.	Spring Term Ends

SUMMER TERM—1953

May 18	2:00 P. M.	Registration
May 19	8:00 A. M.	Classes Begin
July 3		Independence Day Recess
July 30	12:00 Noon	Summer Term Ends
July 31	2:00 P. M.	Graduation
July 31		
to		Summer Recess
Sept. 9	8:00 A. M.	
Aug. 21		Co-op Period Ends



STATE UNIVERSITY OF NEW YORK

LIBERAL ARTS COLLEGES

CHAMPLAIN COLLEGE AT PLATTSBURG

HARPER COLLEGE AT ENDICOTT

PROFESSIONAL COLLEGES

COLLEGE OF MEDICINE AT NEW YORK CITY

COLLEGE OF MEDICINE AT SYRACUSE

COLLEGE FOR TEACHERS AT ALBANY

TEACHERS COLLEGE AT BROCKPORT

COLLEGE FOR TEACHERS AT BUFFALO

TEACHERS COLLEGE AT CORTLAND

TEACHERS COLLEGE AT FREDONIA

TEACHERS COLLEGE AT GENESEO

TEACHERS COLLEGE AT NEW PALTZ

TEACHERS COLLEGE AT ONEONTA

TEACHERS COLLEGE AT OSWEGO

TEACHERS COLLEGE AT PLATTSBURG

TEACHERS COLLEGE AT POTSDAM

COLLEGE OF AGRICULTURE AT CORNELL

COLLEGE OF CERAMICS AT ALFRED

COLLEGE OF FORESTRY AT SYRACUSE

COLLEGE OF HOME ECONOMICS AT CORNELL

SCHOOL OF INDUSTRIAL AND LABOR RELATIONS AT CORNELL

MARITIME COLLEGE AT FORT SCHUYLER

VETERINARY COLLEGE AT CORNELL

TWO-YEAR TECHNICAL INSTITUTES

AGRICULTURAL AND TECHNICAL INSTITUTE AT ALFRED

AGRICULTURAL AND TECHNICAL INSTITUTE AT CANTON

INSTITUTE OF AGRICULTURE AND HOME ECONOMICS AT COBLESKILL

AGRICULTURAL AND TECHNICAL INSTITUTE AT DELHI

AGRICULTURAL AND TECHNICAL INSTITUTE AT FARMINGDALE

AGRICULTURAL AND TECHNICAL INSTITUTE AT MORRISVILLE

INSTITUTE OF APPLIED ARTS AND SCIENCES AT BINGHAMTON

INSTITUTE OF APPLIED ARTS AND SCIENCES AT BROOKLYN

INSTITUTE OF APPLIED ARTS AND SCIENCES AT BUFFALO

INSTITUTE OF APPLIED ARTS AND SCIENCES AT UTICA

INSTITUTE OF APPLIED ARTS AND SCIENCES AT WHITE PLAINS

